MACMILLAN CANCER SUPPORT

Understanding risk-reducing breast surgery

"I didn't feel differently about my post-op body and saw my new boobs as medals – I'd taken back control over my body."

Aneece

About this booklet

This booklet is for anyone who is thinking about having risk-reducing breast surgery. You may consider this if you have a high risk of developing breast cancer. Having a high risk is usually because you have a strong family history of breast cancer.

The booklet explains what risk-reducing breast surgery is and what it involves. It talks about the different options for risk-reducing breast surgery. There is information about the benefits, limitations and risks of each type of surgery. We also talk about some physical and emotional issues you may experience, and ways to cope with these.

We have included photographs of women who have had breast reconstruction after risk-reducing surgery. This is to help show how a reconstruction may look.

This booklet only gives an overview of risk-reducing breast surgery. It is important to talk about it with your surgeon and breast care nurse. Give yourself plenty of time to think about it to help you to decide what is best for you.

How to use this booklet

This booklet is split into sections to help you find what you need. Some parts might not be relevant to your situation. You do not have to read it from start to finish. You can use the contents list on page 3 to help you.

It is fine to skip parts of the booklet. You can always come back to them when you feel ready.

On pages 136 to 142, there are details of other organisations that can help. If you find this booklet helpful, you could pass it on to your family and friends. They may also want information to help them support you.

There is also space to write down questions and notes for your doctor or nurse (page 143 and 144).

Quotes

We have included some quotes from women who have had risk-reducing breast surgery, which you might find helpful. Some quotes are from Aneece, who is on the front cover of this booklet. She has chosen to share her story with us. To share your experience, visit **macmillan.org.uk/shareyourstory**

For more information

If you have more questions or would like to talk to someone, call the Macmillan Support Line free on **0808 808 00 00**, 7 days a week, 8am to 8pm, or visit **macmillan.org.uk**

If you would prefer to speak to us in another language, interpreters are available. Please tell us, in English, the language you want to use.

If you are deaf or hard of hearing, call us using NGT (Text Relay) on **18001 0808 808 00 00**, or use the NGT Lite app.

We have some information in different languages and formats, including audio, eBooks, easy read, Braille, large print and translations. To order these, visit **macmillan.org.uk/otherformats** or call **0808 808 00 00**.

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Making your decision

What is risk-reducing breast surgery?

Risk-reducing breast surgery is an operation that significantly reduces the risk of breast cancer developing. It does this by removing the healthy breast tissue from both breasts. It is also called a risk-reducing bilateral mastectomy.

Removing both breasts lowers the risk of getting breast cancer by about 95%. Although most of the breast tissue is removed, it is not possible to remove it all. This means a very small amount of tissue will be left. So there is still a small risk of breast cancer developing.

You can have breast reconstruction (page 31) at the same time as risk-reducing breast surgery. Breast reconstruction is surgery to make new breast shapes. Most people decide to have this, but some choose not to.

New breast shapes can be made:

- using tissue from another part of your body
- with breast implants.

You will be able to discuss your options for breast reconstruction with a surgeon.

Risk-reducing breast surgery and family history

Risk-reducing breast surgery is only suitable for a small number of women, or other people assigned female at birth, who have a high risk of getting breast cancer. This could be because:

- you have a history of breast cancer in your family
- you have had tests that show you carry a gene that is linked to an increased risk of breast cancer.

Risk-reducing surgery may also be an option if you have had breast cancer and have a high risk of developing another breast cancer.

If you have 1 female relative diagnosed with breast cancer over the age of 40, your risk will probably be similar to others the same age as you. This means that risk-reducing breast surgery is not likely to be suitable for you.

But about 1 in 500 women in the UK (0.2%) have a known breast cancer gene mutation. This greatly increases their risk of developing breast cancer. The risk of having a gene mutation is higher in the Ashkenazi Jewish population.

You may be offered risk-reducing breast surgery if 1 or both of the following are true:

- You have a strong family history of breast cancer or ovarian cancer, or both. This usually means that several close blood relatives have had breast or ovarian cancer, usually before the age of 50. Close blood relatives are your parents, siblings, children, aunts, uncles and grandparents. People you are related to by marriage are not blood relatives.
- You have had a positive test for any of the main gene mutations that are linked to an increased risk of breast cancer.

The most common gene mutations linked to an increased risk of breast cancer are BRCA1 and BRCA2. These mutations are also linked to other cancer types.

There are other gene mutations linked to an increased risk of cancer, including breast cancer. These include TP53, PTEN, ATM, PALB2, CHEK2, STK11 and CDH1. Other gene mutations are still being studied to see if they increase cancer risk. Your doctor, a clinical geneticist or a genetic counsellor can talk to you about this.

We have more information in our booklet **Cancer genetics – how cancer sometimes runs in families**.

Deciding about risk-reducing breast surgery

Whether to have risk-reducing breast surgery is your decision. You will be supported by a team of specialists who can answer your questions and give you the information, support and counselling you need. They are called a multidisciplinary team (MDT).

Risk-reducing breast surgery involves taking away healthy tissue rather than removing cancer. Whatever your situation, it is important you have time to think about your decision.

You will have several appointments with different healthcare professionals. They will talk to you about:

- your risk of breast cancer
- the different options for managing or reducing your risk (pages 22 to 27)
- whether clinical trials or preventative hormone medication might be another option
- what risk-reducing breast surgery involves (pages 16 to 19)
- your options for breast reconstruction (page 40)
- your feelings about the surgery and how it may affect you and your relationships (pages 13 and 14).

This usually takes several months. This may sound like a long time. But it is important to take your time and make an informed decision.

The following healthcare professionals will support you while you make your decision:

- A clinical geneticist or genetic counsellor will explain your risk of getting breast cancer over the next 5 to 10 years and over your lifetime. You should receive a letter or summary about what has been discussed. This will include details of your personal risk. If there are changes to your family history, this may mean your personal risk changes over time. The clinical geneticist or genetic counsellor will also talk to you about ways you can reduce or manage your risk of breast cancer.
- A breast surgeon will talk to you about your risk of breast cancer and whether you want to think about risk-reducing breast surgery. They will also explain other ways to reduce or manage your risk.
- A reconstructive surgeon will talk to you about your options for breast reconstruction. They can be a breast surgeon or a plastic surgeon. They can show you photos of people who have had risk-reducing breast surgery and breast reconstruction.
- A breast care nurse will give you information and support. You can call them if you have questions.
- A psychologist can help you with your feelings and expectations about risk-reducing breast surgery. They can help you think about what support you may need to cope with the effects of surgery and changes in the way you see your body (body image).

We have more information in our booklet **Cancer and body image** (page 130).

If you decide to have risk-reducing breast surgery, the wait for surgery is likely to be about 12 to 18 months.

Talking to others who have had risk-reducing breast surgery

It can be helpful to hear the experiences of others who have been in a similar situation to you. Your surgeon or breast care nurse can arrange for you to talk to others who have had risk-reducing breast surgery.

They can give you details of organisations that offer support and information, or contact details for local and national support groups.

You can also visit our Online Community to talk to people who have had a similar experience at **macmillan.org.uk/community**

But remember that everyone is different. What is right for others may not be right for you.

Making your decision

It might be helpful to take notes at appointments to remember what has been said. You could use the space on page 143 of this booklet.

It may also help to write a list of the advantages and disadvantages of having surgery. Some of these will be more important than others to you, and some may not be important to you at all.

Advantages of risk-reducing breast surgery

- The operation greatly reduces your risk of developing breast cancer.
- It aims to avoid the need for cancer treatments such as radiotherapy and chemotherapy, and potential side effects.
- After the operation, you may feel much less anxious about getting breast cancer and the impact it could have on your life.
- You will not need to have breast screening.

Disadvantages of risk-reducing breast surgery

- It can take up to 6 months or more to fully recover after the operation.
- As with all operations, there can be complications.
- The results of the surgery are permanent.
- Your body will not look the same as before. You may be unhappy with the change in your appearance.
- If you are also having breast reconstruction, you are likely to need more than 1 operation to get the best cosmetic result (page 40).
- If you decide to have breast reconstruction, the reconstructed breasts will not have the same feeling or sensation. There will be numbness or a change in sensation.
- You may feel less confident sexually.
- You will not be able to breastfeed.

Your feelings – things to consider

You will need time to explore your feelings about having risk-reducing breast surgery and having your breasts removed. This is important even if you have already decided you want to have the operation. You may have strong emotions after the operation. Taking time to think about how you feel can help you prepare.

If you have a partner, talking with them about your feelings, worries or concerns can help. This means you do not need to try to guess what your partner may be thinking or feeling. If you decide to have surgery, trying to find ways of talking about things can help you communicate better after the operation. You and your partner might find it difficult to talk about how you feel (pages 124 to 129). You can speak to your breast care nurse, counsellor or psychologist for advice.

"It took even longer for me to decide what I wanted to do with regards to reconstruction. I felt that I didn't want to have implants. I am not having the reconstruction."

Katie

People may react in different ways when you tell them you are thinking about having this operation. Some people may have strong opinions about the surgery. These might be different from your own. This can be difficult to deal with. It is important you focus on what is important to you. A psychologist or a breast care nurse can help you to do this.

You may want to consider the following things:

- What do your breasts mean to you?
- How would having your breasts removed affect the way you feel about yourself?
- If you have a partner, do you know each other's feelings and concerns about the surgery?
- If you are not in a relationship, have you thought about how the surgery may affect future relationships?
- How could the surgery affect your confidence?
- Are other people in your life affecting your decision?
- If you have an experience of cancer in your family, how is it affecting your decision?
- How anxious do you feel about the possibility of getting breast cancer?
- If you are thinking about having breast reconstruction, have you thought about what your breasts will look and feel like afterwards?
- What are your feelings about other options instead of surgery?

Take as much time as you need to make your decision.

“I will undergo a preventative double mastectomy to remove my boobs and replace them with boobs which are not a risk to my life. ”

Laura

Types of risk-reducing breast surgery

Your surgeon will talk to you about the different types of risk-reducing breast surgery and their risks and benefits. These are the main types of operation.

Skin-sparing mastectomy

If you decide to have a breast reconstruction, a skin-sparing mastectomy can be done. It involves:

- removing the nipples
- possibly removing some or all of the darker circles of skin around the nipples (areolas)
- removing other tissue that makes up the breasts.

The surgeon will leave the skin that covers the breasts. This is used to cover your reconstructed breasts.

Nipple-sparing mastectomy

It may be possible to keep your nipples if you have risk-reducing breast surgery. This is usually if you are having breast reconstruction at the same time as the mastectomy. This called having an immediate reconstruction.

A nipple-sparing mastectomy removes almost all the breast tissue but leaves the:

- nipple
- areola
- breast skin.

These will be used to cover the reconstructed breasts. The nipple is then removed and reattached to the reconstructed breast. This can be done either with or without the areola. Or you can have a nipple reconstruction (page 100). This is where the nipple shape is made from the remaining skin and attached to the reconstructed breast.

If you are having a nipple-sparing breast reconstruction with implants, it can sometimes be difficult to achieve an ideal nipple position. The nipples may be too low. There can also be a slight increase in wound-healing problems if some breast skin is removed at the same time.

You can have further surgery to correct the nipple position. If you have naturally larger breasts, the surgeon may recommend surgery to lift your breasts before a mastectomy. This means some skin can be removed and the position of the nipple changed to a more natural position before the nipple-sparing mastectomy.

This operation helps make sure the nipple is in the right position when you have your operation to remove and reconstruct the breasts.

Simple mastectomy

This operation is done if you choose not to have breast reconstruction. The surgeon removes:

- the nipples
- the areolas
- the breast tissue
- about half of the skin covering the breasts.

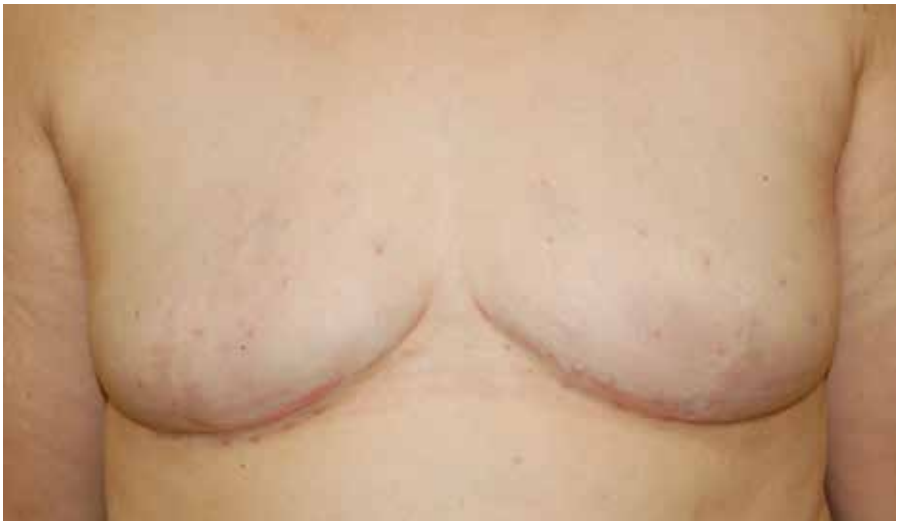
The skin that remains is used to cover the chest. We have more information about recovery after risk-reducing breast surgery (pages 106 to 126).

Goldilocks mastectomy

Like a simple mastectomy, this operation involves removing the breast tissue. But the surgeon uses the skin and fat, usually removed during a mastectomy, to form a small breast shape. For some, it may look better than a simple mastectomy. It can also help to keep a breast prosthesis in position within a bra. A breast prosthesis is an artificial breast form that can be used to replace all or part of the breast.

It is not suitable for everyone. It will depend on the size of your breasts before surgery.

Goldilocks mastectomy with lipomodelling



This is an example of a Goldilocks mastectomy which also shows lipomodelling. Lipomodelling is sometimes called fat transfer or fat grafting. It involves taking fat from another part of your body and injecting it into the breasts. The dots are needle marks on the skin. These will fade with time.

We have information about lipomodelling (pages 90 to 93) and recovery after risk-reducing breast surgery (pages 106 to 110).

Talking with your surgeon and breast care nurse

Here are some questions you may want to ask your breast surgeon and breast care nurse about risk-reducing surgery:

- What types of surgery are suitable for me and why?
- What are the possible complications or risks of the surgery?
- Where will cuts be made and what might the scars look like?
- How long will it take for me to recover from the operation?
- If I decide to have surgery, how long will I have to wait to have it?
- Can I talk to someone who has had risk-reducing breast surgery?
- Can I talk to someone about the possible emotional effects of having risk-reducing breast surgery?
- What type of support will be available to me after the operation?
- If I decide not to have breast reconstruction, who can give me advice about breast prostheses, bras and swimwear?

We also have suggested questions if you decide to have breast reconstruction on pages 36 and 37.

The timing of risk-reducing breast surgery

If you decide to have risk-reducing breast surgery, you will need to think about when to have the operation.

If you have gene mutations, this gives you a high risk of developing breast cancer (pages 7 and 8). If you have family members who have had breast cancer, the ages they developed breast cancer may affect your decision.

In general, the younger you are when you have risk-reducing breast surgery, the more likely it is to prevent breast cancer. Your genetics counsellor or breast surgeon can talk to you about how your risk changes with age.

There are other things that can affect the timing of risk-reducing breast surgery. For example, this may include whether you are in a relationship (page 124 and 125) or would like to have children and breastfeed in the future.

Other options for managing a high risk of breast cancer

Risk-reducing breast surgery may not be suitable for everyone. Health conditions, such as heart problems, could increase the risk of complications during and after surgery. Your surgeon or nurse can tell you more about this.

There are other options for managing a high risk of breast cancer. Some of these may be used instead of risk-reducing breast surgery. Or they may be used as well as the surgery.

Regular breast screening

Regular breast screening cannot prevent breast cancer. But it can help find it at an early stage when many breast cancers can be cured. If you have a high risk of breast cancer, breast screening usually involves having a combination of:

- MRI scans
- mammograms (breast x-rays).

These usually happen once a year. The age someone starts and finishes having MRI scans and mammograms will depend on their risk of developing breast cancer.

We have more information about MRI scans and mammograms on our website. Visit **macmillan.org.uk/tests-scans**

If you have a high risk of breast cancer, you usually have an MRI scan every year. This happens between the ages of 30 and 49. Sometimes you may have these scans from the age of 20. You will need to have MRI scans planned for at a certain time in your menstrual cycle. So you may be asked about the timing of your periods.

Doctors may recommend you continue to have MRI scans every year if you are considered as high risk. This can happen if you are over 50 and have a TP53 mutation or dense breast tissue.

If you are high risk, you may also be offered mammograms every year. This will be when you are between the ages of 40 and 59 or 30 and 69. This will depend on which gene mutation you have.

If you are having both mammograms and MRI scans as part of your screening, you usually have them within a 2-week period.

Chemoprevention

Chemoprevention can reduce the risk of a common type of breast cancer called oestrogen receptor-positive breast cancer. This is also called ER-positive breast cancer. Chemoprevention involves taking a tablet every day for 5 years. This can reduce the risk of getting breast cancer by 30 to 40%.

The 2 drugs most commonly used are tamoxifen and anastrozole. Other drugs that may be used include raloxifene and exemestane.

If you have not gone through the menopause, you will usually be given the option of taking tamoxifen. Your doctor will advise you not to get pregnant while you are taking it. They will talk to you about using contraception during treatment.

If you have gone through the menopause, you may be offered anastrozole, exemestane or raloxifene. These can only be used if you are post-menopausal.

We have more information about these treatments on our website. Visit **macmillan.org.uk/treatments-and-drugs**

Side effects of chemoprevention

The most common side effects of chemoprevention are menopausal symptoms. These can include:

- hot flushes
- vaginal discharge and dryness.

We also have more information at **macmillan.org.uk/menopausal-symptoms**

Your doctor or nurse will give you more information about possible side effects.

Tamoxifen can slightly increase your risk of womb cancer and blood clots. Both these problems are more common if tamoxifen is taken after the menopause.

Anastrozole and exemestane can cause bone thinning and increase the risk of severe bone thinning (osteoporosis). Tamoxifen can also increase this risk when taken before the menopause.

Tamoxifen and raloxifene improve bone density when you take them after the menopause. So you may have these if you are at risk of osteoporosis. They can help protect your bones and prevent bone thinning.

If you have a BRCA1 gene change, it is unlikely you will get ER-positive breast cancer. This means chemoprevention may not be as effective.

" I had my ovaries removed. I didn't feel less of a woman for going through the menopause early. I needed HRT, but I didn't really have any side effects apart from not having periods any more, which was the best thing ever. "

Aneece

Risk-reducing removal of ovaries (bilateral salpingo-oophorectomy)

This operation removes the ovaries and fallopian tubes. This is because inheriting a BRCA1 or BRCA2 gene change gives you a higher risk of getting both ovarian cancer and breast cancer. Removing the ovaries and fallopian tubes greatly reduces the risk of ovarian cancer. It also lowers the risk of breast cancer.

In some situations, this operation may be offered with risk-reducing breast surgery.

This operation will cause infertility. This means you will not be able to get pregnant. If you want to become pregnant, you may want to think about having the operation:

- after you have finished trying to get pregnant (conceive)
- after you have been able to complete your family.

You can discuss with your doctor at what age this surgery should be done. It is usually done before the menopause. There are current studies looking at whether there is a benefit to removing the fallopian tubes first and the ovaries later. The aim of this would be to reduce the risk without causing an early menopause.

After surgery, you usually take hormone replacement therapy (HRT) until the age you would expect to have the menopause. This protects your bone and heart health and prevents menopausal symptoms. In this situation, HRT does not increase the risk of breast cancer.

Things you can do

You may decide you want to make lifestyle changes to improve your health. These include:

- healthy eating
- keeping to a healthy weight
- being physically active
- following the NHS guidelines for alcohol intake
- giving up smoking.

Some studies have shown that breastfeeding may help prevent breast cancer in people who have the BRCA1 or BRCA2 gene mutation. If you have a baby before breast surgery, it is likely you will be encouraged to breastfeed if you can.

You can get advice on lifestyle changes from your GP, cancer doctor or breast care nurse. They may also talk to you about the risks linked to hormonal contraception or HRT if this applies to your situation.

Breast reconstruction

What is breast reconstruction?

Breast reconstruction uses surgery to make new breast shapes after an operation to remove both breasts (mastectomy). Most people having risk-reducing breast surgery choose to have breast reconstruction. But some people choose not to.

Breast reconstruction may not be suitable for everyone, as some medical conditions might increase the risk of complications during and after surgery. Your surgeon or nurse can tell you more about this.

Breast reconstruction aims to make breast shapes that look and feel as natural as possible. But it is important to have realistic expectations. It is difficult to know how you will feel about your reconstructed breasts. Not everyone is happy with their results (page 123). Reconstructed breasts will not look or feel the same as your natural breasts. They will be less sensitive and may feel numb.

Breast reconstruction does not increase the chance of a cancer developing. If you ever need to have any changes in the breast area checked, it does not make it harder to diagnose a possible cancer.

You can have breast reconstruction at the same time as risk-reducing breast surgery. This is called an immediate reconstruction. Or you can have it as a second operation months or sometimes years later. This is called a delayed reconstruction.

Many people choose to have an immediate reconstruction. This leaves fewer scars and can look better. You can talk to your breast surgeon about the benefits and disadvantages of immediate and delayed reconstruction before you decide what is best for you.

Others choose not to have a reconstruction. If you choose not to, your breast care nurse can tell you about breast forms (prostheses) and bras you can wear after surgery.

Or you may choose not to have a reconstruction and not to have a prosthesis. Breast Cancer Now has information that might be helpful (page 136).

"I had an 8-hour mastectomy and reconstruction. As soon as I woke up, I felt relief. It was painful for a couple of months, but I felt really positive."

Aneece

Talking with your surgeon

Breast reconstruction is done by a breast reconstructive surgeon or a plastic surgeon. Breast reconstructive surgeons are sometimes called oncoplastic surgeons. They are trained in breast cancer surgery and some types of breast reconstruction. Plastic surgeons usually do more complex breast reconstructions. You may need to travel to a plastic surgery unit.

In some hospitals, 2 surgeons may work together. A breast surgeon removes the breast (mastectomy). Then a plastic surgeon makes the new breast shape.

A new breast shape can be made:

- with a breast implant (pages 41 to 60)
- by using tissue taken from another part of your body (pages 62 to 83)
- with a combination of implants and tissue taken from another part of your body.

Your surgeon will advise you on the types of reconstruction most suitable for you. They will show you photos of breast reconstruction to give you an idea of how the result may look. There are also photos in this booklet of different types of breast reconstruction (pages 40 to 76).

You can bring a relative or friend to your appointments for support. They can help you remember what was discussed.

You will usually have a choice of more than 1 type of reconstruction. What is most suitable for you will depend on your:

- general health
- body type
- personal preferences.

It is fine to ask your breast reconstructive surgeon lots of questions. You can also ask to see photos of their previous work. They are used to this, and it could help you make the decision that feels right for you. They will be sensitive to your thoughts and feelings about reconstruction.

Some questions to ask your surgeons

It usually helps to have a list of questions to ask. Your breast surgeons will be sensitive to your thoughts and feelings about breast reconstruction. It is fine to ask about anything you are concerned about.

Here are some questions you might like to ask about reconstruction:

- What types of reconstruction would be suitable for me?
- What are the risks or complications of the different types of surgery? What are the chances of them happening?
- How long will the operation take?
- How long will I have to wait before I can have the surgery?
- Should I see a plastic surgeon?
- Can I talk to someone who has had this type of operation?

There are also questions you might want to ask your surgeon about their experience. These could include the following:

- What experience do you have in reconstructive surgery?
- How many of these operations do you do each year?
- Will you be doing the operation yourself?
- Are there any 'before and after' pictures I can see of your work?

You may also have questions about the immediate and longer-term effects of breast reconstruction. These questions might include the following:

- How long will I be in hospital?
- Where will my scars be and what will they look like?
- After surgery, how long will it take before I can go back to everyday activities?
- What can I expect my reconstructed breasts to look and feel like straight after surgery? How about 6 months or 1 year after surgery?
- Will I need any further surgery in the future after having a reconstruction?

You may find the answers to some of these questions in our information. But you should still check them with your surgeons, as there may be slight differences.

"There was no way I would have opted to just wait and be monitored to see what happened. I'd had my children, so not being able to have more didn't bother me. It was more important that I did everything I could to stay around for them."

Aneece

Giving your consent

Before you have any operation, your surgeon will explain its aims and what to expect. They will ask you to sign a form giving your permission (consent) for the operation to take place.

Before doing this, you should get as much information as possible about:

- the type of the operation and exactly what it involves
- the benefits and possible disadvantages
- any other types of operation that may be suitable for you
- possible complications and any significant risks or side effects.

Breast reconstruction can be complex, so you may need to talk to your surgeon and nurse a few times. It is a good idea to try to have a relative or friend with you to help you remember what was said.

If there is anything you do not understand, ask your surgeon or nurse so they can explain it again.

They should always give you time to ask questions.

Preparing for breast reconstruction surgery

You will have a pre-operative assessment before your operation. This will involve some tests to check your general health and fitness.

Your treatment team will talk to you about having a healthy balanced diet and keeping physically active in the weeks before your surgery. For example, you may be advised to go for regular walks.

You may be given information about what to bring into hospital, such as:

- comfortable clothes and nightwear with buttons down the front
- a supportive bra.

You may have an appointment to find out more about breast reconstruction surgery. Your surgeon, breast care nurse or physiotherapist will show you exercises to do before and after surgery (page 109).

Smoking

If you smoke, your surgeon will talk to you about giving up smoking before surgery.

You are much more likely to develop problems after breast reconstruction if you smoke. Smoking damages blood vessels and increases the chance of having problems with wound healing and recovery.

Your hospital and GP can give you help and support to stop smoking. You can also visit an NHS website for more information (page 139).

Types of breast reconstruction

There are 3 main types of breast reconstruction:

- **Breast implants** (pages 41 to 60). This is when an implant is put under your skin to make a new breast shape. Implants are now more often put in front of the chest muscle. But they may sometimes be put behind the chest muscle.
- **Your own tissue (flap reconstruction)** – pages 62 to 83. This is when skin, fat and sometimes muscle are taken from another part of your body to make a new breast shape. Most flap reconstructions use tissue from the tummy (abdomen). But tissue from the back, buttocks or thighs can also be used.
- **Breast implants and your own tissue**. This is a combination of having a breast implant and a flap reconstruction. The surgeon makes a breast shape using an implant and tissue taken from another part of your body.

Your surgeon will advise you on the type of reconstruction that is most suitable for you. It will depend on:

- your preference
- your general health
- your body type and the shape and size of your breasts
- whether any of your breast tissue has already been removed
- how healthy the tissue and skin are on your breasts and on other areas of your body that may be used (donor sites).

We have a table that compares the different types of breast reconstruction (pages 86 and 87).

Reconstruction using breast implants

Breast implants may be used:

- for immediate breast reconstruction
- when both breasts are being reconstructed.

Breast implants can be used to make breast shapes. But they will feel firmer and not move as naturally as breasts reconstructed using your own tissue. This can mean it is more difficult to get a natural shape when only 1 breast is being reconstructed. So, implants are often used when both breasts are being reconstructed. This may be the case if you do not have enough tissue to reconstruct both breasts.

The surgeon makes new breast shapes by putting breast implants either in front of the chest (pectoral) muscle or behind it. When an implant is behind the chest muscle, it is called a sub-pectoral implant. With newer surgical techniques, it is now more common for implants to be in front of the chest muscle. This is called a pre-pectoral implant.

Breast implants

Breast implants have a silicone outer cover with silicone gel or salt water (saline) inside.

Silicone gel implants tend to feel softer. They can last many years but may need to be replaced at some point in the future. This may be because your body shape changes over time.

"I had these 2 big scar lines across the front of my breasts, and it was weird not having the same feeling in them that I once had. For a few months, I definitely kept my top on more. But I soon got used to it. My husband reassured me that it didn't make any difference to him as I was still me. "

Aneece

Saline implants can sometimes leak. The saline usually only leaks around the implant. It does not cause any harm and is safely absorbed into the body. If it leaks, this can mean the reconstructed breast becomes smaller suddenly, and the implant will need to be replaced.

The surface of the implant is usually textured, but some surfaces are smooth. Implants can come in a range of sizes. They are either round or shaped like a teardrop. Your surgeon will talk to you about the different types of implants and any potential risks (pages 55 to 60).

Reconstruction using breast implants can be a one-stage or two-stage procedure.

One-stage procedure

The surgeon puts in either a fixed-size implant or an expander implant. These are permanent implants put in with 1 operation.

Fixed-size implants

The surgeon puts in a permanent silicone implant to create a new breast shape. This can either be in front of the chest muscle or behind it.

Surgical mesh

The surgeon may use a surgical mesh or a product called an acellular dermal matrix (ADM). This supports the implants and help keep them in place. The mesh can be made from animal tissue or synthetic material. Some meshes are made from a material that is absorbed into the body. This is called an absorbable mesh.

Supporting sling

Occasionally, the surgeon may use your own tissue to make a supporting sling for the implants. This is called a dermal sling. It may be used if you have larger breasts that are being reduced in size.

The surgeon places the implant under the chest wall muscle. They then attach the supporting tissue to the edge of the chest muscle. This acts as a sling for the lower part of the implant and keeps it in place.

Your surgeon can explain the possible benefits and disadvantages of using a supporting sling.

Expander implants

You may have an expander implant put in at the same time as a mastectomy. These are also called tissue expander implants. Your surgeon can use an expander implant if your skin and chest wall muscle need to be stretched. An expander implant has an outer chamber of silicone gel and an inner chamber. This inner chamber can be filled with saline through a valve (port). This makes the implant expand.

You may have expander implants if you are having a delayed reconstruction and the skin needs to be expanded more.

Expander implants may also be used when the surgeon does not want to overstretch the skin. For example, if the surgeon is trying to keep the nipple, overstretching the skin can reduce the blood supply to the nipple area. Putting in an expander implant and not fully inflating it helps the blood supply to the nipple while it is healing.

If you have already had radiotherapy, some surgeons may use these implants to make sure the skin heals before it is stretched.

The surgeon may put the expander implants in front of your chest muscle to stretch the skin. Or they may place it behind the chest muscle to stretch the muscle and skin. You will then wait a few weeks for the tissues to heal. After this, the muscle and skin can begin to be stretched to form your new breast shape. This is done by injecting saline into the implants.

Saline injections

Your nurse or doctor injects saline into the implant every 1 to 2 weeks to stretch the area. They do this through a valve under the skin. This may be placed:

- in the underarm area
- under your breast
- on your chest wall.

After each injection, you may feel some aching or tightness in the breast area for 1 or 2 days.

This process continues over several weeks to form your new breast shape.

Expander implants can be temporary or permanent.

Permanent expander implant

Permanent expander implants are sometimes called Becker implants or expanders. They can be left in place when fully expanded. They have an outer chamber of silicone gel and an inner chamber. The inner chamber is gradually filled with saline through a valve to stretch the skin or both the skin and muscle. The nurse or doctor may then remove some saline through the valve to get a more natural breast shape. A surgeon can remove the valve later during a small operation. This may be under a local or general anaesthetic. The implant remains in place.

Temporary expander implant

A temporary expander implant has a hollow inner chamber that can be filled with saline. It does not have the silicone gel outer chamber that a permanent expander implant has.

The implant is gradually expanded with saline over time and then replaced with a permanent silicone implant. This is often described as a two-stage procedure.

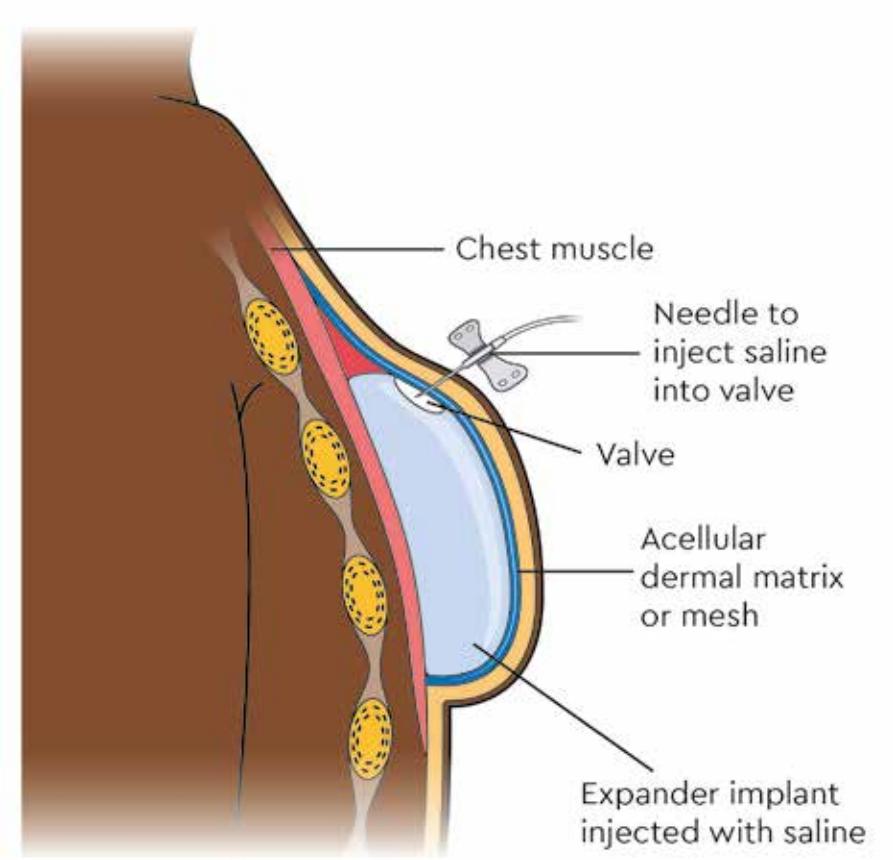
Two-stage procedure

A two-stage procedure involves two operations.

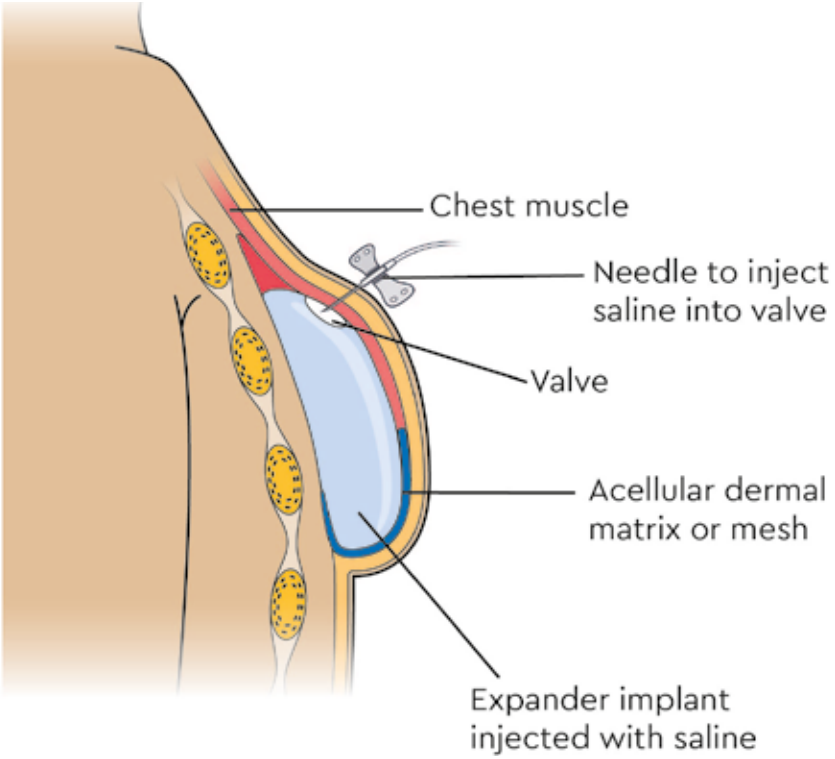
The surgeon puts a temporary tissue expander implant under the skin. This will either be in front of the chest muscle or behind it. This stretches the skin to make room for the permanent breast implant.

A nurse or doctor injects saline into the expander implant through a valve just under the skin of the chest wall. This increases the size of the expander implant and stretches the skin, or the skin and the chest muscle, to form the breast shape.

An expander implant with a valve, in front of the chest muscle with an ADM or mesh



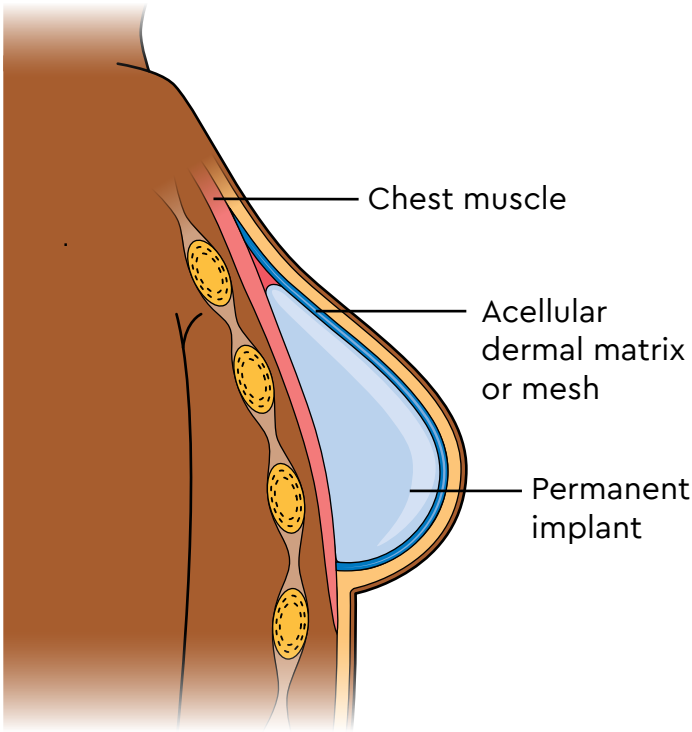
An expander implant with a valve, behind the chest muscle with an ADM or mesh



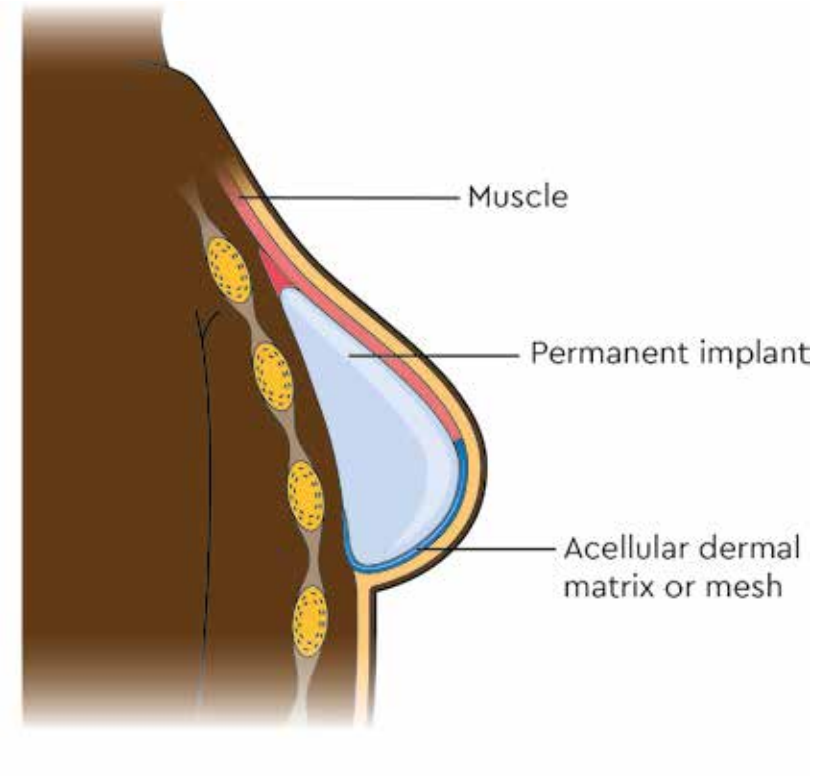
Once the temporary implant expands to the final size, it stays in place for a few months. This allows the skin, or both the skin and chest muscle, to stretch fully. This helps keep the skin stretched. It also reduces the risk of the skin tightening after the implant is removed.

Your surgeon will then remove the expander implant and put in a permanent silicone implant. The implant is put in front of, or sometimes behind, the chest muscle. This gives you your final breast shapes.

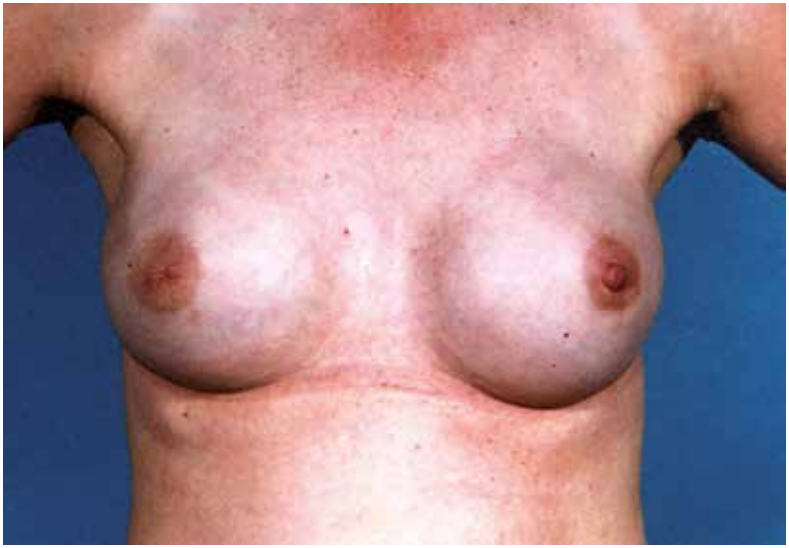
A permanent implant, in front of the chest muscle with an ADM or mesh



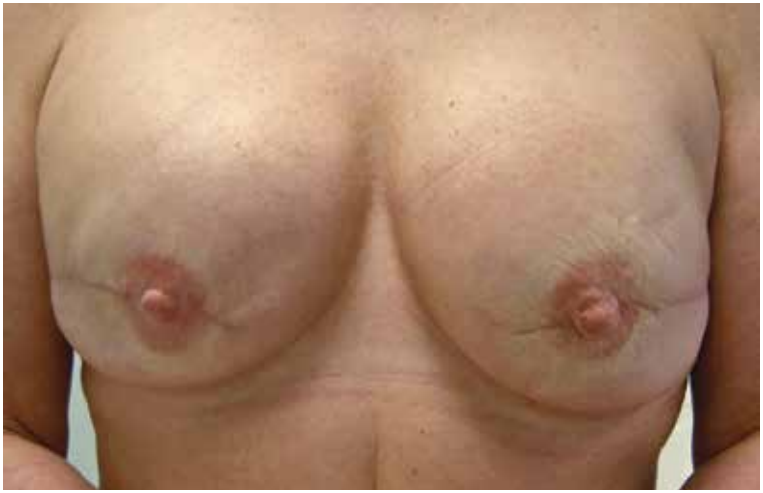
A permanent implant, behind the chest muscle with an ADM or mesh



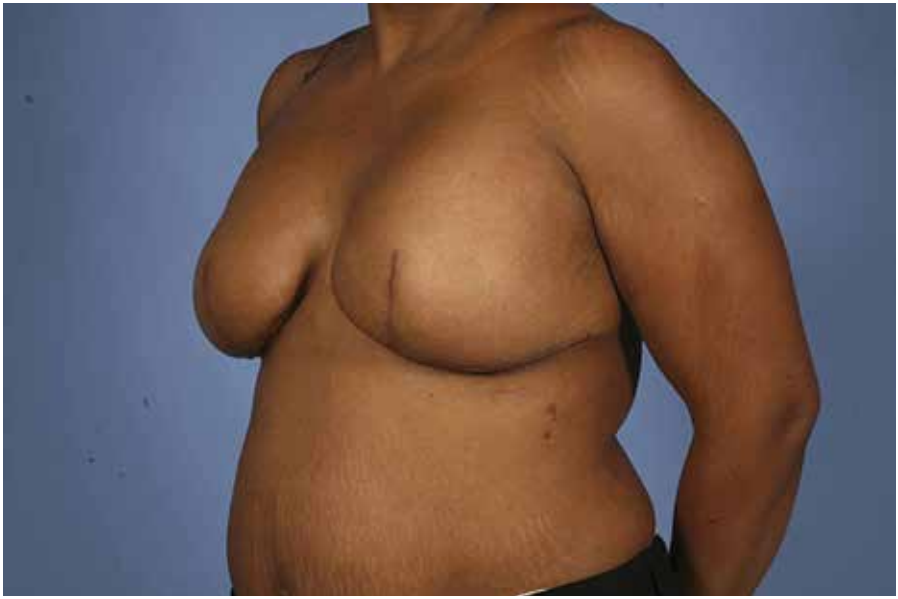
Reconstruction of both breasts with expander implants

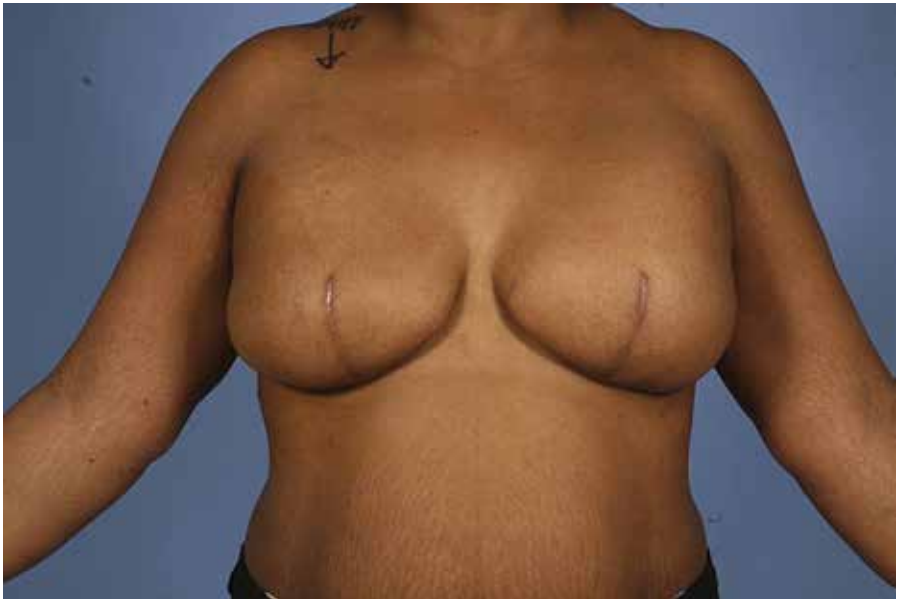


Reconstruction of both breasts with expander implants and nipple reconstruction



Reconstruction of both breasts with expander implants, without nipple reconstruction





What are the benefits?

- Reconstruction with implants is usually a simpler operation than other types of breast reconstruction. But it can be more difficult to match the natural breast to the breast reconstruction if only 1 breast is being reconstructed with an implant.
- It has a slightly shorter recovery time than other types of breast reconstruction.
- It leaves less scarring on the breast and no scars elsewhere on your body.
- Depending on the size and shape of your breasts, it can be a good option – especially if you are having both breasts reconstructed.

What are the limitations?

- You may need several visits to the hospital over a few months for tissue expansion.
- The operation will leave a scar.
- Implants do not feel as soft or as warm as breasts made using your own tissue.
- To get the best result, you usually need more than 1 operation. This may be to reposition the implants. Or you may need fat injected over the implants to improve the shape and give a more natural feel. This is called lipomodelling (pages 90 to 93).
- The reconstructed breasts are unlikely to have the same droop as natural breasts.
- A natural breast changes over time. It may increase in size and have a droop, but a breast with an implant will not.
- Sometimes breast implants tighten over time due to scar tissue forming around the implants. This may mean that in the future your breasts look less even or change shape. You may need surgery to 1 or both breasts to improve the appearance.
- You may need surgery to replace an implant if it leaks or if the tissue around it tightens (capsular contracture) – page 56.
- Most implants are now placed in front of the chest muscle. But if your implants are behind the chest muscle, they may change in shape when the muscle over them tightens (contracts).
- Sometimes you may be able to see a rippling effect through the skin. This is caused by creasing or folds in the implant. Rippling is more common if the implant is placed in front of the muscle (page 57).
- Reconstructed breasts have less sensation than natural breasts. They may feel numb.

What are the risks?

With any operation, there are risks, such as infection. There are also some risks specific to implants.

Removal of the implant

Up to 1 in 10 women (10%) need to have an implant removed within the first 3 months after surgery. After 9 months, this increases to 1 in 7 women (15%). This can happen because of wounds not healing properly or an infection.

If an implant needs to be removed, you will usually have to wait a few months before you can have surgery to have a new implant put in. During this time, the breast will be flat. The delay is needed to give the tissues time to heal and to treat any infection. You may also need to have lipomodelling (pages 90 to 93) before having another implant put in.

The new implant may become infected. Or you may develop further wound-healing problems. The implant could also develop another tight capsule around it. This means it may also need to be removed. Your surgeon may talk to you about the benefits of having a reconstruction using your own tissue instead of having the implant replaced (pages 62 to 83).

Infection around the implant

It is not common to have an infection in the tissue around the implant. But if this happens, the implant usually needs to be removed until the infection clears. The implant can be replaced several months later. You will be given antibiotics at the time of your operation to reduce the risk of infection. If an implant needs to be removed because of infection and then is replaced, the reconstructed breast may not be as good. It is important to follow any advice your treatment team gives you about preventing infection.

Tightening or hardening of tissue around the implants (capsular contracture)

Breast implants are not a natural part of your body. Because of this, your body reacts by forming a 'capsule' of scar tissue around them.

Over a few months, the scar tissue can get smaller (contract) as part of the natural healing process. But sometimes as the capsule contracts, the tissue tightens around the implant. This is called capsular contracture. It can happen any time after having a breast implant operation.

A small amount of capsular contracture is common. But occasionally, it can be more severe and make the reconstructed breast feel hard and painful. It may also change the shape of the implant. The risk of capsular contracture increases if you:

- have an infection in the reconstructed breast
- smoke.

If the contracture is not severe, you may not need treatment. Doctors may treat it by taking fat from another part of your body and injecting it around the implant. This is called lipomodelling (pages 90 to 93). Or you may have an operation to:

- release the capsule (capsulotomy)
- remove some or all of the capsule or scar tissue (capsulectomy) and insert a new implant.

Some people choose to have the breast reconstructed with a flap of their own tissue (pages 62 to 65) instead of having the implant replaced.

Rippling of implants

Most surgeons put the implant in front of the chest muscle. This means it is close to the skin. Rippling is when you can see creases in the implant through the skin.

When the implants are behind the chest muscle, they may change in shape. Or they may crease when you move and the muscles contract.

If you have rippling of your implant, your surgeon may suggest lipomodelling (pages 90 to 93) to thicken the tissue over the implant. This can reduce the look of rippling. Your body absorbs up to half (50%) of the fat injected. So you may need to have lipomodelling more than once to get the best results. Sometimes lipomodelling can cause lumpiness under the skin. If this happens, your doctor may arrange a scan to check this.

Damage (rupture) to implants

It is difficult to damage an implant. You can continue with your normal activities, including sports and air travel, without worrying whether it will affect your implant. Implant rupture is now rare. Fewer than 1 in 20 women (5%) will have an implant rupture within 10 years of having firm or solid gel implants.

Occasionally, an implant might split or tear. Most silicone implants contain a firm gel. This is unlikely to leak in large amounts, even if the outer cover is damaged. If this happens, it should not affect your health. But the implant will need to be replaced.

If saline leaks out of an expander implant, it will not cause any harm. But the implant will go flat quickly and will need to be replaced.

You should tell your doctor if you notice a change in the shape or feel of your implant. They may do a scan to check it.

Safety and silicone breast implants

Quality control

A few years ago, there were concerns about the quality of the silicone used to fill breast implants. This happened because unapproved silicone was found in breast implants made in France by a company called Poly Implant Prostheses (PIP). PIP implants have not been used in the UK since 2010.

Breast implants used in the UK must be approved by the Medicines and Healthcare products Regulatory Agency (MHRA). This organisation is responsible for making sure that medical devices, including breast implants, are safe and fit for use.

Since 2016, everyone who has had a breast reconstruction using a tissue expander or breast implant in England, Scotland and Wales is automatically recorded on a national registry. If you live in Northern Ireland, you will be asked for your permission (consent) to record this.

This is called the Breast and Cosmetic Implant Registry (BCIR). Registries help find people with implants if any safety concerns are raised. If you are worried about having breast implants, it is important to discuss this with your surgeon before your operation. They will be able to tell you the type of implants they use and who makes them.

Breast implant-associated anaplastic large cell lymphoma (BIA-ALCL)

Anaplastic large cell lymphoma (ALCL) is a very rare type of non-Hodgkin lymphoma that can sometimes affect the tissue around the implant. People with textured breast implants have an increased risk of developing ALCL in the tissue around an implant. This is called breast implant-associated anaplastic large cell lymphoma (BIA-ALCL). It is not breast cancer.

BIA-ALCL usually develops about 7 to 10 years after implant surgery. But it can happen earlier or later than this. The risk of BIA-ALCL is extremely small with implants currently used. Although the risk is thought to be linked to some types of textured implants, there is not enough evidence to be certain. The textured implants thought to be of the highest risk are no longer being used.

BIA-ALCL usually shows up as a swelling or an increase in the size of the breast due to a build-up of fluid. There may also be a lump near the implant.

Early-stage BIA-ALCL can be treated by surgery to remove the implant and the capsule of tissue surrounding it. A non-textured implant can be put in. If the ALCL spreads outside the capsule, other cancer treatments may be needed. Your surgeon can talk to you about:

- the risk of BIA-ALCL
- the risks and benefits of different implants
- the most up-to-date recommendations.

Breast implant illness (BII)

Breast implant illness (BII) is a term used by some people who feel they have symptoms linked to their silicone breast implants. BII is not a medical diagnosis. There is currently no evidence to suggest the symptoms reported are linked to the breast implants. Research is continuing to look into this.

Symptoms that have been reported to be related to this condition include:

- tiredness
- joint aches
- depression
- headaches
- hair loss
- rash
- neurological issues.

But these symptoms can have many causes.

If you have symptoms you feel might be because of your implants, contact your doctor. Some people ask for the implant to be removed. But removing breast implants will not necessarily improve symptoms. About half of people affected (50%) feel their symptoms improve.

Flap reconstruction using your own tissue

Flap reconstruction is a type of breast reconstruction that uses your own tissue from somewhere else on your body. It is more complex than implant reconstruction (pages 41 to 60). It involves moving a flap of skin, fat and sometimes muscle from another part of your body to your chest wall. This creates a breast shape. The flap is taken from a part of your body called the donor site. Most flap reconstructions use tissue from the tummy (abdomen) – pages 73 to 78. Tissue from the back (pages 66 to 72), thighs (pages 79 to 81) or buttocks (pages 82 and 83) can also be used.

You may have a flap reconstruction if enough tissue can be taken from the donor site. It is often used in delayed reconstruction (pages 32 to 33). It is a longer operation than implant-only reconstruction. It has a longer recovery time.

The reconstructed breasts need a good blood supply to keep them healthy. There are 2 ways a surgeon can do this.

Free flap reconstruction

With a free flap reconstruction, the surgeon takes a flap of tissue from another part of your body. They remove it from its blood supply and move it to your chest. They then connect it to a new blood supply. This is complex surgery. It is only done by plastic surgeons in specialist hospitals.

Most breast reconstructions using tissue from the tummy are free flap reconstructions. All reconstructions using tissue from the buttock or thigh are free flap reconstructions.

Pedicled flap reconstruction

With a pedicled flap reconstruction, the surgeon takes a flap of tissue from your back or tummy. They keep it connected to its original blood supply. They then tunnel the tissue with its blood supply under your skin and out onto your chest.

Reconstructions using tissue from the back are usually pedicled flap reconstructions. Some reconstructions using tissue from the tummy or lower back are pedicled flap reconstructions. This is less common.

Who is it suitable for?

Reconstruction using your own tissue may be suitable if you:

- do not want breast implants
- have had or need radiotherapy as part of your treatment
- want your breasts to have a more natural shape and feel
- cannot have implants or tissue expansion because the chest skin and muscle are too tight
- have large breasts or breasts with a natural droop and do not want your breasts to be smaller.

There may be increased risks with flap reconstructions if you:

- have health problems, such as diabetes
- are very overweight
- smoke.

These risks are more common with free flap operations.

What are the benefits?

- It gives a more natural shape, movement and feel to the reconstructed breasts.
- It is suitable for all breast shapes.
- It can create breasts with a more natural droop.
- The reconstructed breasts will change as your body changes over time. They may put on weight or lose weight as you do.
- You can usually avoid having implants.

What are the limitations?

- It involves having surgery to another part of your body to remove the flap.
- You will have a scar on the part of your body the flaps are taken from.
- You may have a patch or circle of skin on the reconstructed breasts. This skin comes from a different part of your body. Because of this, it may be a different texture and colour from the breast skin. Your breast surgeon will be able to give you more information about this.
- You may have a longer operation, hospital stay and recovery.
- Reconstructed breasts have less sensation than natural breasts. They usually feel numb.

What are the risks?

With any operation, there are risks, such as infection. There are also some specific risks with this type of reconstruction.

Problems with blood supply to the flap

Your surgeon and nurses will check the reconstructed breasts regularly for a few days after the operation. This is to make sure they have a good blood supply. Most operations are successful. But when a flap of tissue is used for breast reconstruction, there is a small risk that all or part of the flap will not have a good enough blood supply.

If there are any signs of a poor blood supply in the first few days after the operation, you may need another operation. This allows the surgeon to check the blood supply. If there is not a good enough blood supply, the tissue flap may fail. You may then need another operation to remove the affected tissue. Your surgeon can explain more about this risk.

Fat necrosis

Fat necrosis is an area of damaged fat cells. It can cause a firm lump in the reconstructed breast. It can happen when fatty tissue does not have a good enough blood supply.

The body can usually absorb small areas of fat necrosis over time. But some people need surgery or liposuction to remove a larger area of fat necrosis. This will improve the appearance of the breast, but it can leave a dent. This can be improved with lipomodelling (pages 90 to 93).

If you feel a lump in your reconstructed breast, you should always get it checked.

Reconstruction using tissue from your back (LD flap)

This is called a latissimus dorsi flap (LD flap). The surgeon uses a muscle called the latissimus dorsi (LD) and some overlying fat and skin from your back. The surgeon tunnels the flap and its blood supply under the skin below your armpit. This creates a pedicled flap (page 63). The LD flap remains attached to the original blood vessels and blood supply. The surgeon then positions it on your chest to make a new breast shape.

Because the LD flap stays attached to the original blood vessels and blood supply, there is a reduced risk of flap failure with the reconstructed breast.

LD flap and implant reconstruction

You can have a combination of LD flap and implant reconstruction. An expander implant is more common in delayed reconstructions. The implant gives more volume to the breast. The flap covers the implant. This gives the breast a more natural look and feel.

Fat transfer (lipomodelling)

Sometimes surgeons use liposuction to take fat from another part of the body. They then inject this into the muscle when you have your breast reconstruction, to create a reconstructed breast. This is called lipomodelling, lipofilling or fat grafting (pages 90 to 93).

It may be used to create a larger breast shape so implants are not needed.

Extended LD flap

Occasionally, the surgeon moves a large amount of fat with the LD muscle. This is called an extended LD flap. It may be done so implants are not needed.

Who is it suitable for?

Reconstruction using tissue from the back is usually suitable for most breast sizes. But it may not be suitable if you have large breasts.

It may be an option if other types of flap reconstruction are not suitable. This may be due to:

- your general health or medical conditions
- you not having enough fat tissue to reconstruct from other areas of your body, such as the tummy area.

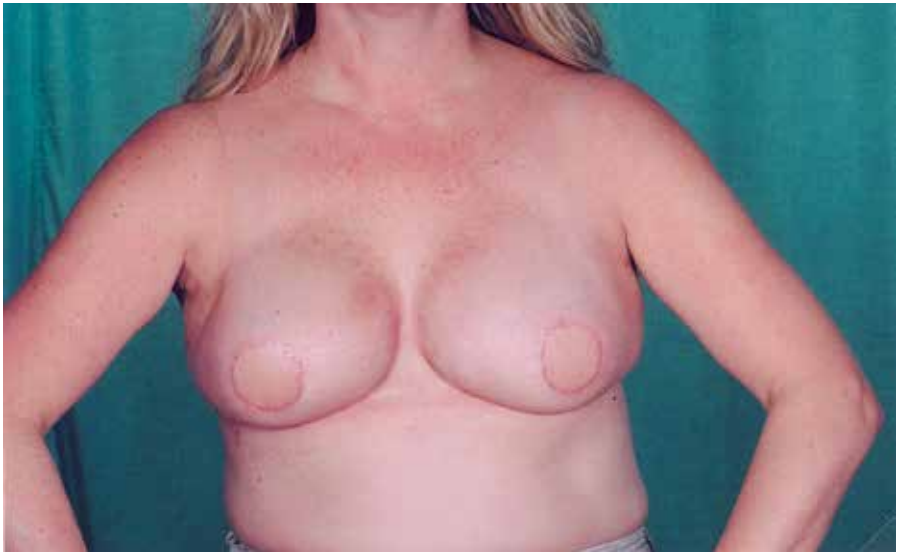
It may not be suitable if you have a job or hobbies that involve:

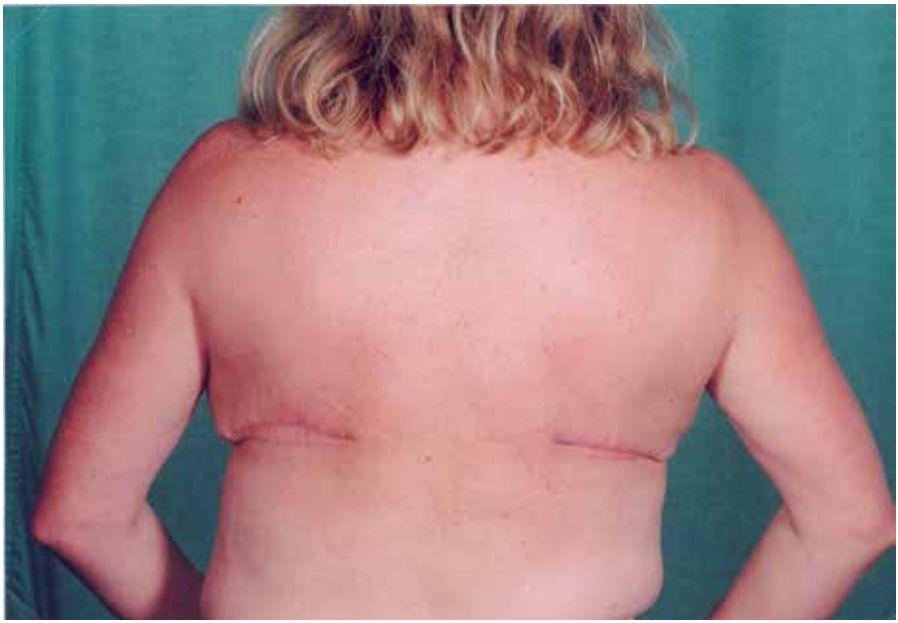
- using your arms above shoulder height
- regularly swimming, playing tennis, rowing, doing heavy lifting or climbing.

What are the limitations?

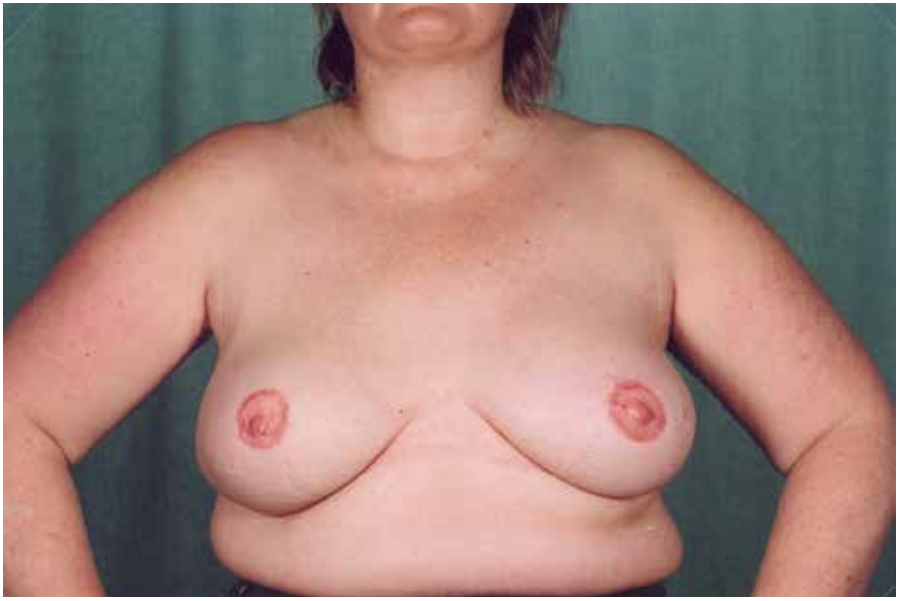
- You will have scars on your back and on the reconstructed breasts.
- It may take several months for the muscle in your reconstructed breasts to feel part of the breast and not the back. The muscle may twitch sometimes.
- If you would prefer larger breasts, you may need LD flaps with implants or lipomodelling (pages 90 to 93).
- There may be a small bulge under your armpits where the muscle is tunnelled under the skin. You may feel fullness under your arm. This usually improves over time but may not go away completely.
- There may be some tightness in your back after removing the LD muscle.

Front and back view 2 months after skin-sparing risk-reducing mastectomy using an LD flap without nipple reconstruction





Skin-sparing risk-reducing mastectomy using an LD flap and nipple reconstruction (with tattooing)



What are the risks?

With any operation, there are risks, such as infection. There are also some specific risks with this type of reconstruction.

Fluid under the wound (seroma)

This sometimes happens after the operation but usually gets better within a few weeks (page 112).

Numbness and pain

You may have numbness, pain or sensitivity in the area of your back where the tissue was taken from. These symptoms can last for some time and may not go away completely. If this happens, your doctor or nurse can talk to you about how to manage the pain.

Tightness

You may have a feeling of tightness across your back from where the LD muscle was removed. It may last for some time and for some people may not go away completely. This may affect your ability to do certain activities, including some sports. The chance of this happening is higher after an extended LD flap operation. This is because more tissue is taken from the back.

Shoulder weakness

After the operation, you may have some weakness in your back and shoulders. This will improve over time. There are other muscles in the back that can make up for the loss of the LD muscle.

You should regain full shoulder strength for most activities 6 to 12 months after surgery. But you may have weakness during some movements.

For example, you may have problems:

- pushing your arms down to get out of the bath
- raising your arms above shoulder height
- closing the boot of a car.

You can usually return to daily activities without any problems, including sports such as swimming and tennis. But having LD flap surgery can affect your ability to take part in some sports, such as:

- rowing
- rock climbing
- cross-country skiing
- high-intensity racket sports.

Reconstruction using tissue from your tummy

The most common breast reconstruction is using tissue from the tummy area (abdomen) along with its blood vessels. This is called a free **DIEP flap** (deep inferior epigastric perforator flap).

The surgeon uses a flap of fat and skin from the tummy area to create a breast shape. They do not use any muscle. They separate the flap and its blood vessels from your tummy.

They then move the flap to the breast area and connect it to the blood vessels in your armpit or chest. This creates a new blood supply. Microvascular surgery is used to join the blood vessels.

This is a technique that uses magnification microscopes and specialised surgical instruments to reconnect the small blood vessels.

Other types of reconstruction using tissue from the tummy area include the following:

- Free **SIEA flap** (superficial inferior epigastric artery flap). This is similar to the DIEP flap. It uses skin and fat from the lower tummy area only, without any muscle. But the surgeon uses a different blood vessel to create the new blood supply.
- **MS-TRAM flap** (muscle-sparing transverse rectus abdominal muscle flap). The surgeon takes only part of the muscle from your tummy area to create a new breast shape. This is usually done as a free flap operation (page 62).
- **TRAM flap** (transverse rectus abdominus muscle flap). The surgeon uses a muscle, as well as fat and skin, from your tummy area to create a new breast shape. This is usually done as a free flap operation, but may be a pedicled flap (pages 62 and 63). After removing the muscle, the surgeon may put a mesh in. This is to strengthen the tummy wall and stop a bulge or hernia developing.

Pedicled flaps are not often used. But they may be an option if you have already had surgery to the tummy area or if microvascular surgery is not suitable. The belly button is also repositioned using tissue from your tummy. You will have a scar around the belly button.

Who is it suitable for?

Breast reconstruction using tissue from the tummy may be suitable:

- for reconstructing breasts of any size
- if you do not want implants.

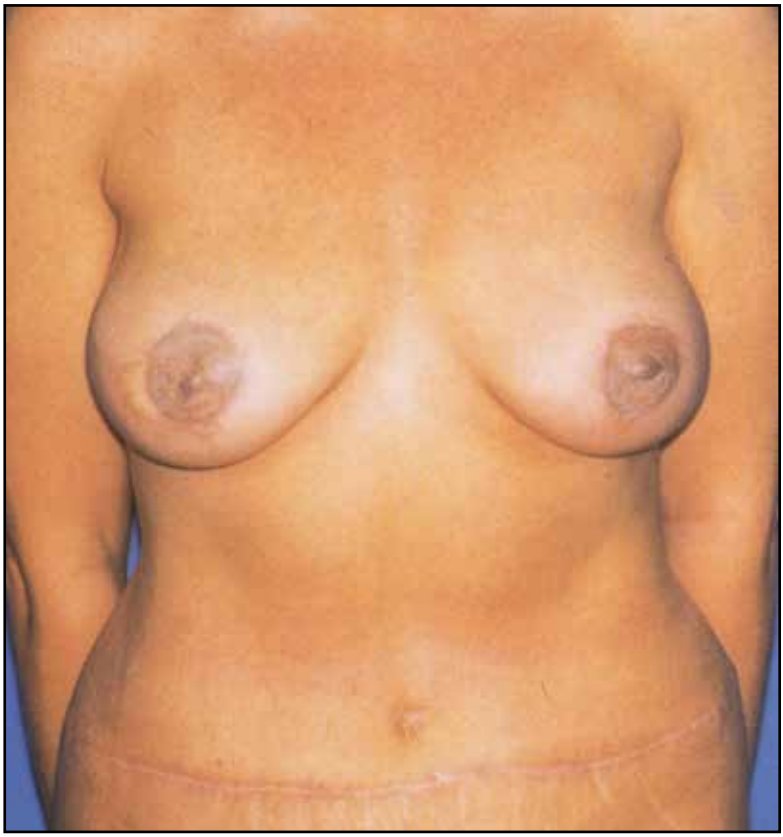
It may not be suitable if you:

- have already had surgery to the tummy area
- have scarring on the tummy area
- are very slim and do not have enough tissue on your tummy
- are planning to get pregnant in the future
- smoke
- have diabetes or a condition that interferes with blood circulation to the tissue – for example, rheumatoid arthritis or another autoimmune condition.

What are the limitations?

- Breast reconstructions using tissue from the tummy are complex. They can take longer than operations using tissue from the back.
- They have a slightly higher risk of complications than operations using tissue from the back.
- You will spend several days in hospital and it will take several weeks to recover.
- You may have a patch of skin on your breast which is a different skin tone.
- You will have a scar across your tummy below your belly button. This will be from hip to hip. You will also have one around your belly button.
- You may have some loss of sensation (numbness) in the tummy area.
- Most operations using tissue from the tummy are successful. The failure rate is less than 3 in 100 (3%).

Free TRAM flap reconstruction of both breasts with nipple reconstruction



What are the benefits?

Breast reconstructions using tissue from the tummy are more widely used than reconstructions using tissue from other parts of the body.

They can look more natural than reconstruction with implants (pages 41 to 60).

What are the risks?

With any operation, there are risks, such as infection. There are also some specific risks with this type of reconstruction.

Fluid under the wound (seroma)

After wound drains are taken out, fluid sometimes builds up under the wound. This is called a seroma. It usually gets better within a few weeks. You may be asked to buy supportive underwear to wear for about 6 weeks after surgery. Wearing this will support your tummy and help reduce swelling and seromas.

Muscle weakness

If you have a TRAM flap, it uses one of the muscles from the front of the tummy (page 74). These muscles form the six-pack. They are important for lifting and physical work. This operation is rarely done when both breasts are being reconstructed.

The muscles in the front of the tummy also work with the back muscles. If they are weakened, you may notice when you sit up from lying down. You may find some sports and physical activities more difficult. A physiotherapist may give you exercises to strengthen your tummy.

A muscle-sparing TRAM flap uses only part of the muscle. Because of this, it is less likely to cause muscle weakness than a standard TRAM flap operation.

DIEP or SIEA flaps do not use any muscle. This helps keep more strength in the tummy.

Hernia or bulge in the tummy area

If a muscle is used in breast reconstruction, there is a higher risk of a bulge or hernia developing in the part of the tummy called the abdominal wall.

Sometimes the surgeon will use a mesh to strengthen the abdominal wall.

This is used to try to stop a bulge or hernia developing. This mesh may be permanent. Or it may be a mesh that dissolves in time.

A DIEP or SIEA flap reduces the risk of developing a bulge or hernia because no muscle is used. But a bulge can develop after any type of flap surgery that uses tissue from the tummy.

If a hernia develops, it can usually be repaired with an operation.

Reconstruction using tissue from your thigh

This is a free flap operation. It uses skin, fat and sometimes muscle from the upper inner thigh. You may have it when the tummy area (abdomen) cannot be used. The type of operation may vary depending on the part of the inner thigh the surgeon uses. You may have a vertical or diagonal scar.

There are 2 options when using tissue from your thigh. You may have 1 of the following:

- A **TMG flap** (transverse myocutaneous gracilis flap). Or you may have another version of this, such as a:
  - TUG flap (transverse upper gracilis flap)
  - LUG flap (L-shaped upper gracilis flap)
  - DUG flap (diagonal upper gracilis flap).
- A **PAP flap** (profunda artery perforator flap). This method does not use muscle.

The plastic surgeon removes tissue from the thigh and attaches the blood vessels that supply the flap to the blood vessels in the chest. This is done using microvascular surgery.

Not all hospitals offer this type of reconstruction, so you may need to travel if it is an option for you.

Who is it suitable for?

Reconstruction using tissue from the thigh may be suitable if you:

- have small to medium-size breasts
- have had surgery to the tummy area
- have scarring on the tummy area
- have upper thighs that touch
- are slim.

It may not be suitable if you want large breasts reconstructed.

What are the limitations?

- You will have a scar on your breast and a scar on your inner thigh.
- Your upper thigh may become numb or lose some feeling.

What are the risks?

With any operation, there are risks, such as infection. There are also some specific risks with this type of reconstruction.

Fluid under the wound (seroma)

Sometimes after wound drains are taken out, fluid builds up under the wound. This is called a seroma (page 112). You may need a dressing, but seromas usually get better within a few weeks.

If a seroma occurs near the thigh wound before it has fully healed, it may seep through the wound. This may delay healing. If this happens, it can take several weeks or sometimes a few months to fully heal.

Swelling of the legs

You may be asked to wear supportive clothing for up to 6 weeks after the operation. This may include cycling shorts and support (TED) stockings. These will reduce the risk of swelling in the leg and groin area after the operation.

Long-term swelling in the leg is rare. Your surgeon will take care to prevent this. There are fine tubes, called lymph vessels, in the legs. These drain fluid from tissue. If some of these tubes are damaged during the operation, fluid may build up in the lower leg.

This fluid build-up is called lymphoedema. Although lymphoedema can be treated, it never goes away completely.

We have more information in our booklet **Understanding lymphoedema** (page 130).

Tightness in the inner thigh

The area around the scars may be flatter than normal and can feel tight. This is because skin, muscle and fat are removed from the inner thigh during a TUG, LUG or DUG flap operation (page 79).

Reconstruction using tissue from your buttocks

This is a free flap operation. It uses fat and skin taken from your buttocks. It may be an option when the tummy area (abdomen) or thighs cannot be used.

There are 2 operations that use tissue from the buttocks:

- Free **SGAP flap** (superior gluteal artery perforator flap). This is when tissue is taken from the upper part of the buttocks.
- Free **IGAP flap** (inferior gluteal artery perforator flap). This is when tissue is taken from the lower part of the buttocks.

Not all hospitals offer this type of reconstruction. So you may need to travel if it is an option for you.

Who is it suitable for?

This type of reconstruction may be suitable if you:

- have breasts of any size
- have scarring on the tummy area
- are slim.

What are the limitations?

- You will have a scar on your breast and on your buttocks. A SGAP flap leaves a diagonal scar on the upper buttocks. This can usually be hidden by underwear with a higher waistband. An IGAP flap scar may be hidden in the crease between the lower buttocks and thigh.
- Tissue in the buttocks is firmer than tissue in the tummy. This means a breast reconstructed with buttock tissue may feel firmer than one made from tummy tissue. It will usually soften over time.
- There is a limit to the amount of tissue that can be taken and to the size of breast that can be reconstructed.

Comparing breast reconstruction options

We have included a table over the next few pages to help you compare different breast reconstruction surgeries. The table shows what each operation involves. This includes:

- how long you might need to stay in hospital
- how long your recovery may take
- where you will have scars
- when and why certain operations may not be suitable.

The timings we give are only a guide, and there may be differences between hospitals. Only your surgeon can give you information about exactly what to expect.

The table includes an estimated recovery time after surgery. This is when you can expect to return to doing most activities. But a full recovery can take longer. Your full recovery time will depend on the operation you have and whether there are any problems after surgery.

Always ask your surgeon or breast care nurse if there is anything you are not sure about.

	Breast implants	Back LD flaps	Tummy TRAM and MS-TRAM flaps
Will I need an implant?	Yes	Implants may be placed behind the flap.	No
Average length of surgery	1½ to 2½ hours (2 surgeons) 3 to 4 hours (1 surgeon)	3 to 6 hours	About 4 to 6 hours
Time in hospital	1 to 3 days	3 to 5 days	3 to 7 days
Recovery time	4 to 6 weeks	6 to 8 weeks	6 to 12 weeks
Scars	Scars on breasts only.	Scars on breasts and back.	Scars on breasts and from hip to hip, near the bikini line and around the belly button.
Effects on muscles	Very little or no change in muscle strength.	May cause slight shoulder weakness. LD muscles in breasts may twitch.	Risk of weakness in tummy muscles. Mesh is often used to strengthen them.
Things to consider	May give a less natural shape and feel than your own tissue. You may need further surgery to replace an implant if certain problems develop. You may have higher risk of complications if you smoke, are overweight or have health problems such as diabetes.	May not be suitable if you need to regularly use your arms above shoulder height. May affect ability to do: • sports such as climbing • high-impact racket sports • swimming.	May not be suitable if you: • are very slim • have scars on your tummy from previous surgery. You may have higher risk of complications if you smoke, are very overweight or have health problems such as diabetes.

Tummy SIEA or DIEP flaps	Buttock SGAP or IGAP flaps	Thigh TMG or PAP flaps
No	No	Implants occasionally used.
4 to 6 hours	4 to 6 hours	4 to 6 hours
3 to 7 days	3 to 7 days	3 to 7 days
6 to 12 weeks	4 to 12 weeks	6 to 12 weeks
Scars on breasts and from hip to hip, near the bikini line and around the belly button.	Scars on breasts and scar on upper buttocks (SGAP) or in the creases under lower buttocks (IGAP).	Scars on breasts and inner thighs.
Low risk of weakness in tummy muscles. Mesh may be used to strengthen and support the muscle.	No change in muscle strength. Mesh may be used to strengthen and support the muscle.	No change in muscle strength.
May not be suitable if you: • are very slim • have scars on your tummy from previous surgery. You may have higher risk of complications if you smoke, are very overweight or have health problems such as diabetes.	You may have a higher risk of complications if you: • smoke • are very overweight • have health problems such as diabetes. There is a small risk of nerve damage causing pain or numbness at the back of the leg.	You may have a higher risk of complications if you: • smoke • are very overweight • have health problems such as diabetes. There is a small risk of lymphoedema (long-term swelling) in lower leg.

Improving the final look and shape

Fat transfer (lipomodelling)

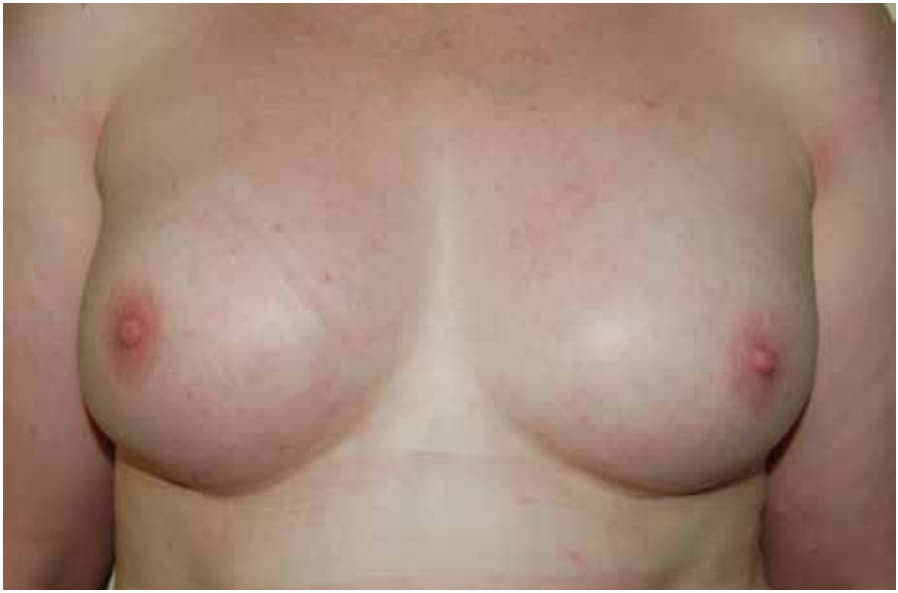
After breast reconstruction, there may be dents or unevenness in the outline (contour) of the new breast. This may improve over a few months. But if it still looks uneven, your surgeon can inject fat into the breast to improve the look. Fat is usually taken by liposuction from the front of your thighs or your tummy. Transferring fat to the breast this way is called lipomodelling. It is also called lipofilling, fat transfer or grafting.

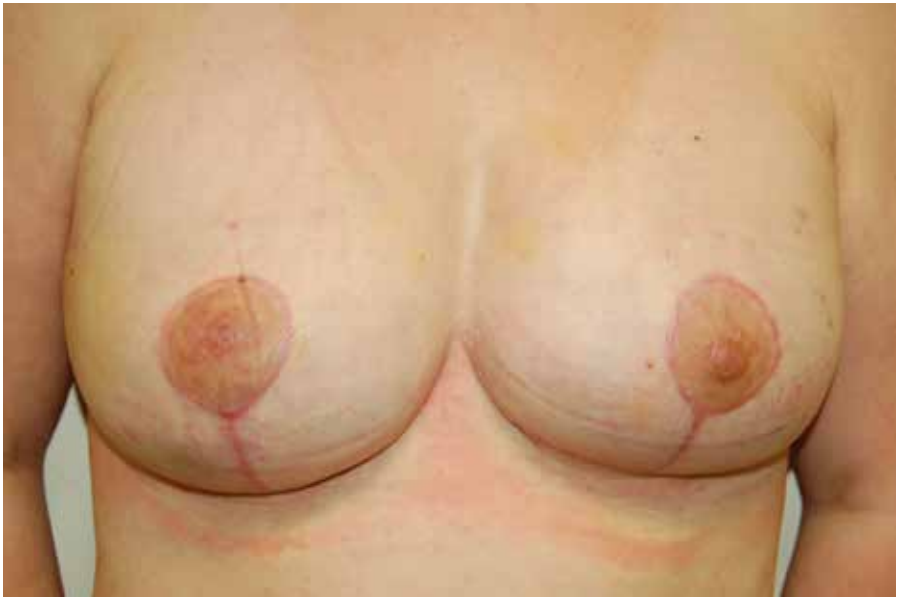
After reconstruction with implants, you may have lipomodelling to make the reconstructed breasts look and feel more natural. You may have it to cover the appearance of any rippling (page 57). Lipomodelling may also make breasts reconstructed with implants feel warmer to touch.

Surgeons can also use lipomodelling to enlarge reconstructed breasts.

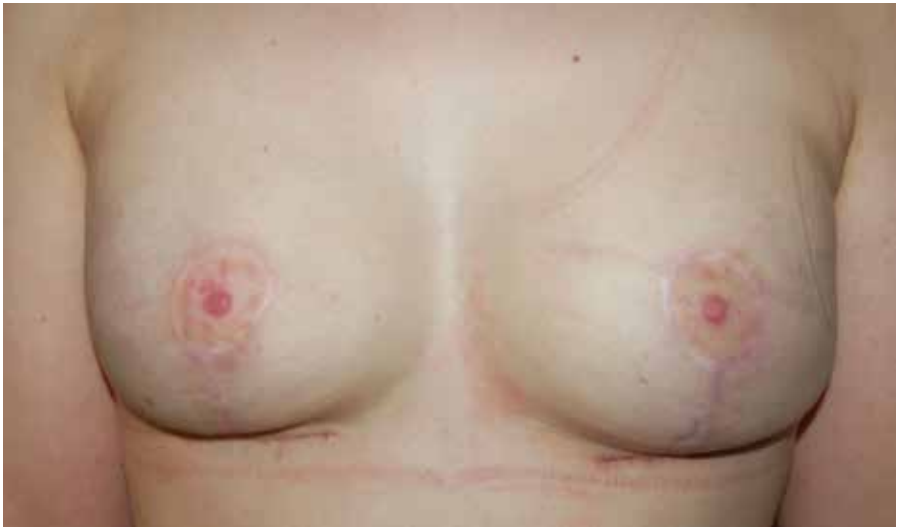
Lipomodelling may be recommended if you have an implant removed. It can help to thicken the tissues before the implant is replaced.

Bilateral mastectomies with implants and lipomodelling





Early result of a bilateral implant reconstruction following a breast uplift (mastopexy) and lipomodelling



You usually do not need to stay overnight at hospital for lipomodelling. This means you can go home the same day. You usually have a general anaesthetic, but it can sometimes be done with a local anaesthetic to numb the area. The area where the fat is taken from is likely to be bruised, sore or numb afterwards. This will get better within a few weeks.

If you have lipomodelling surgery many times, you may also get uneven areas around where the fat is taken from. If this happens, let your surgeon know, as they may be able to even out the areas affected. But this may not be available on the NHS.

About half (50%) of the fat injected into the breast will be absorbed into the body. After the operation, you will be advised whether to wear a supportive bra or not. You may be told to wear supportive underwear to reduce swelling and bruising in the areas the fat is taken from. You should avoid tiring exercise. This will help reduce fat loss from the breast reconstruction.

Fat injections usually need to be repeated a few times. This is because of the fat loss from the breast reconstruction. Injecting fat more than once also helps to smooth out any uneven areas.

You do not usually have lipomodelling until the reconstructed breasts have fully healed. This usually takes about 6 to 12 months. Your reconstructive surgeon can give you more information and discuss the risks and benefits of lipomodelling.

Nipple-sparing breast reconstruction

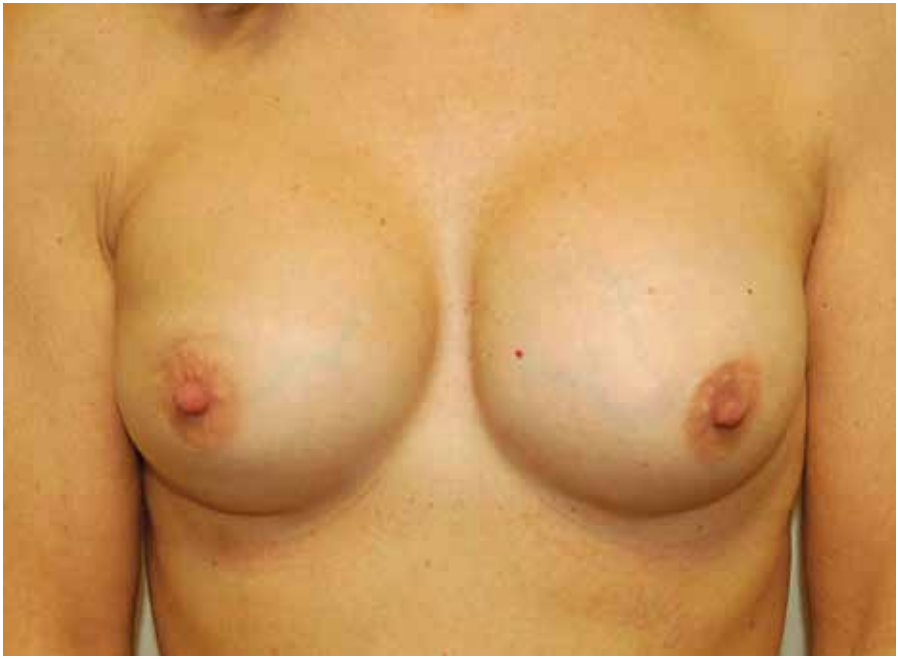
It may be possible to keep your nipples as part of risk-reducing breast surgery with immediate reconstruction.

There are 3 ways a surgeon may do this:

- The nipples are left attached to the skin of the breasts and the breast tissue that lies under the skin is removed.
- The nipples are removed alone or along with the surrounding darker skin (areola). They are then reattached (grafted) onto the reconstructed breast.
- You first have an operation to reposition the nipples and reduce the breast skin. This is called a breast uplift or mastopexy. You then have a second operation to remove the breasts through the lower scar under the breasts and the breast reconstruction.

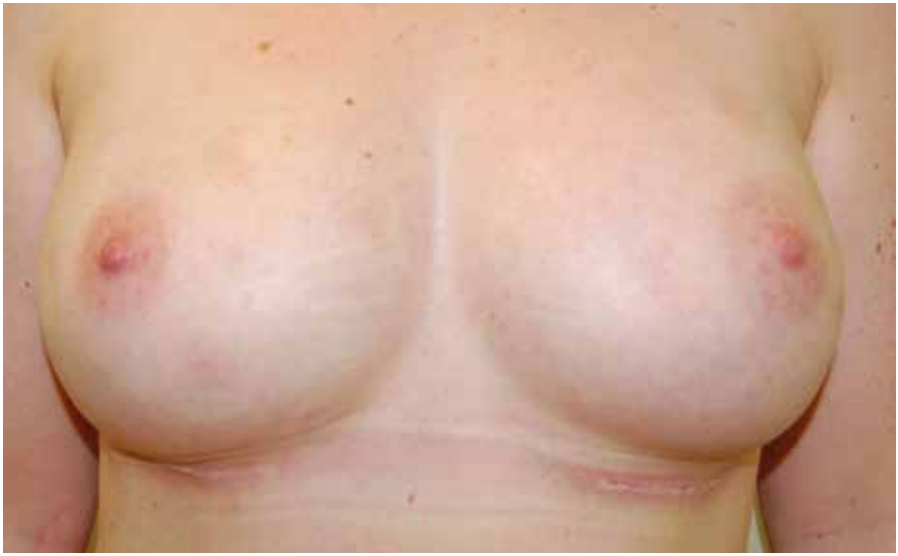
Implant reconstruction after double nipple-sparing mastectomy

The implants are in front of the muscle.

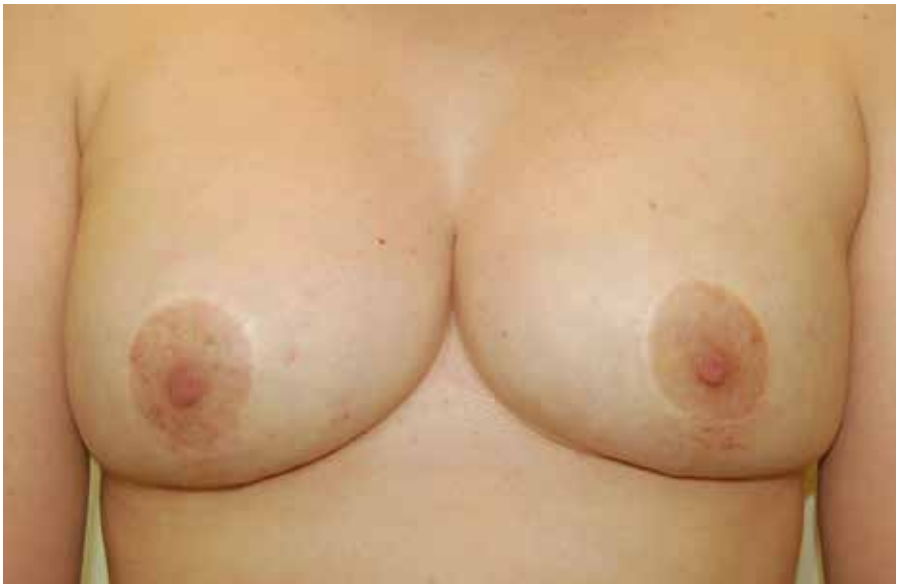


Bilateral nipple-sparing mastectomy with implants

The implants are behind the muscle.



Bilateral nipple-sparing risk-reducing mastectomy after initial mastopexy



Sometimes the nipple needs to be removed in the weeks after breast reconstruction. This may happen if the blood supply to the nipple is not good enough and the nipple tissue dies.

After risk-reducing breast surgery, samples of the removed breast tissue are examined under a microscope. If there are cancer cells found in the tissue removed under the nipple, it may need to be removed.

Nipple-sparing reconstruction with implants

If it is possible to have a nipple-sparing breast reconstruction with implants, it can sometimes be difficult to achieve the best nipple position. The nipples may be too low. You may also have reduced sensation in the nipples, and they may feel numb. There can also be a slight increase in wound-healing problems if some breast skin needs to be removed during reconstructive surgery.

If the nipple position is too low, you can have further surgery to correct the nipple position. The surgeon may suggest having an operation to:

- raise the breast and reposition the nipple and areola
- reduce some of the breast skin (mastopexy).

These may be suggested if you have naturally larger breasts.

This helps make sure the nipple is in the right position when you have your operation to remove and reconstruct the breasts.

"I've had my nipples reconstructed and tattooed and I feel like any other person. If anything, I've got more body confidence. It's a bit like I've had a boob job and I definitely look better on the beach. I just feel really lucky. I can't say 100% that I won't ever get anything, but a big risk has gone. "

Aneece

Nipple reconstruction

If your nipples were removed as part of your surgery, you will usually be offered nipple reconstruction. This sometimes happens at the same time as breast reconstruction. But it is usually some time afterwards. This delay lets the reconstructed breast settle into its final shape so the surgeon can position the nipple accurately.

The time between operations for breast and nipple reconstruction may vary. It is usually about 4 to 6 months but may be longer.

You usually have nipple reconstruction done under a local anaesthetic. But you may have a general anaesthetic. You can go home the same day.

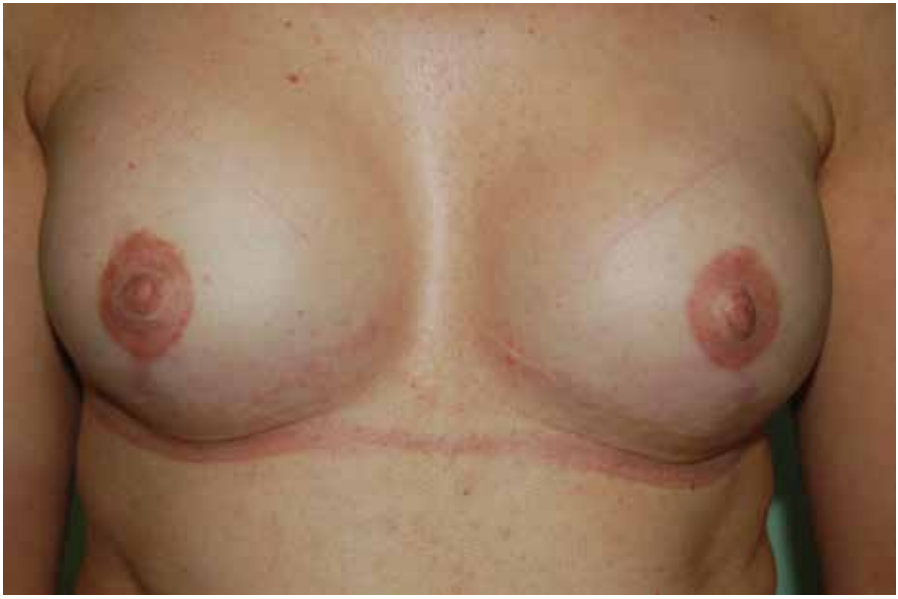
Your nipple shape may be reconstructed using a skin flap. The surgeon folds skin onto your reconstructed breast into a nipple shape. They make it bigger than normal. This is because the reconstructed nipple will shrink and usually flattens with time.

When you go home, you will have a dressing over the nipple areas. These will be removed when you have a follow-up appointment. Your nursing team will advise you about this.

A reconstructed nipple does not react to temperature changes or touch. It does not have the same sensation as a natural nipple and is likely to be numb. It may also not be the same colour as a natural nipple.

The reconstructed nipple needs a good blood supply from the tissue of the reconstructed breast. If the blood supply is poor, the nipple reconstruction may not be successful.

Bilateral mastectomy with implants and nipple reconstruction



Nipple and areola tattooing

If you have new nipples made, you can have them and the area around them tattooed to look a more natural colour. This is sometimes called micropigmentation.

A reconstructed breast does not have the same sensation as a natural breast. Most people do not feel any discomfort when the tattooing is being done. If you have feeling in the nipple area, you can be given local anaesthetic cream to numb it.

A tattooing session usually takes 30 to 40 minutes. It may need to be done more than once to give the best result. The tattoo usually lasts about 18 months to 2 years.

Some hospitals offer three-dimensional (3D) tattooing. This can create the appearance of a nipple and areola without nipple reconstruction. The area is tattooed in different shades to create a 3D appearance.

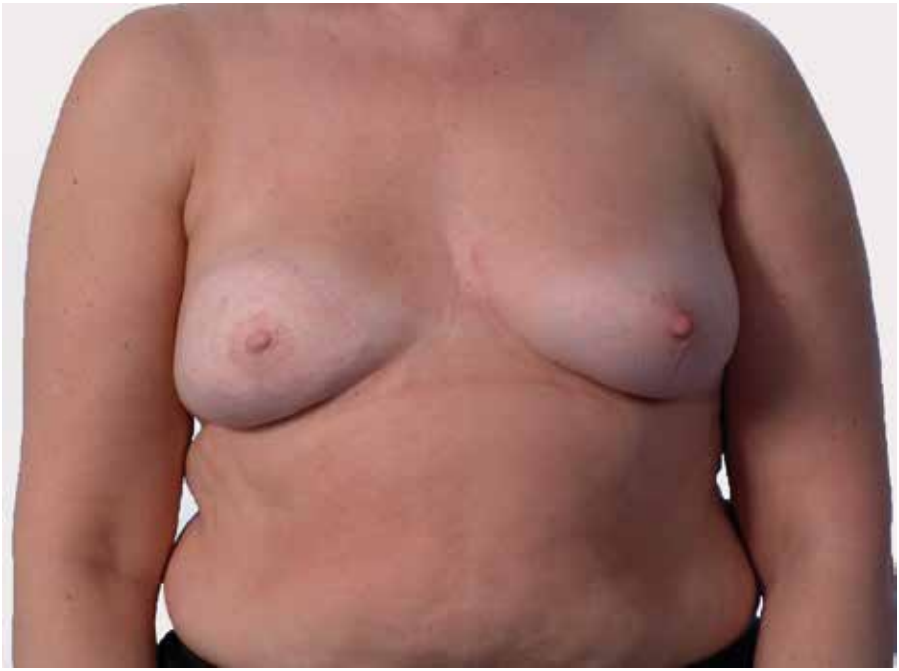
Nipple tattooing is usually done in the hospital outpatient department.

Nipple prosthesis

If you do not want to have nipple reconstruction or tattooing, you may choose to have a silicone nipple (nipple prosthesis). You can attach it to your reconstructed breast. You fix the nipple to your breast with special adhesive. It can stay in place for up to 3 months.

Ready-made nipple prostheses come in different shades and sizes.

Nipple prosthesis on the right breast



After your operation and recovery

Recovery after your operation

Your breast care nurse will give you advice and support before and after surgery to help your recovery.

After your operation

Drips and drains

When you wake up from your operation, you may have a drip (infusion) into a vein in the back of your hand or your arm. This will be removed when you are able to drink enough.

If you are having reconstructive surgery using free tissue flaps (page 62), you will also have a catheter to drain urine (pee) from your bladder. This will be taken out once you can get up and move around.

There may be drainage tubes coming out of the wounds. These will be attached to a small container. This collects any excess blood or body fluid. A nurse will remove the tubes and container a few days after the operation. Or these may be removed after you go home.

Wounds

Straight after surgery, your wounds may be covered with dressings or sticky plastic strips. You will wear these until the wounds have healed. Once you are moving around, your surgeon or nurse will tell you whether you should keep the area dry. They will let you know when you can gently shower the wound with clean water.

They will also tell you if and when your stitches need to be removed. The stitches may be soluble. This means they will dissolve and do not need to be removed by a doctor or nurse.

Reconstruction using your own tissue

If you have breast reconstruction using your own tissue (pages 62 to 83), the reconstructed breasts will need to be kept warm for the first few hours after the operation. Warmth improves blood flow to the tissue. You may have a special blanket called a Bair Hugger™, which lets warm air flow over you. Or you may have thick gauze pads over the breasts.

The tissue flaps will be checked frequently for the first 24 to 48 hours to make sure they have a good blood supply.

Swelling and bruising

Your reconstructed breasts will be swollen to begin with. Swelling will reduce over a few weeks but may take longer to fully settle.

Some people may have some general post-surgery swelling in their body, hands and feet. This will start to go down after couple of days.

Bruising to the breasts and donor site is very common after the operation. It usually goes away within 3 weeks.

Pain or discomfort

After any type of operation, you will have some pain or discomfort. You will be given painkillers to keep you comfortable.

After the operation, you may have these as an injection or through a pump you control yourself. These will be replaced with tablets or syrup as you start to eat and drink. Make sure you ask for painkillers if you need them. This will help you recover more quickly.

Before you go home, the nurses will give you medicines to take at home while the area continues to heal. They will explain how to take them.

Changes in sensation

You will usually have some numbness or pins and needles across your chest or reconstructed breasts. If you have a tissue flap, you may also have numbness under your upper arms and around the donor site. Some people may notice a change in how materials such as lace feel against their skin.

These sensations improve over months and sometimes years. But it is common to have some numbness that will not go away. Most people adjust to this over time.

Constipation

Constipation can be common after surgery. It means you are not able to pass stools (poo) as often as you normally do. It can become difficult or painful. Here are some tips that may help:

- Drink at least 2 litres (3½ pints) of fluids each day.
- Eat high-fibre foods, such as fruit, vegetables and wholemeal bread.
- Do regular gentle exercise, like going for short walks.

Some painkillers can cause constipation. You may need to take medicine called laxatives to help. Your doctor can prescribe these for you or you can get them from your local pharmacy.

Wearing a bra

You may be advised to wear a bra to support your reconstructed breasts.

To begin with, you will need to wear a soft, supportive bra that is not underwired. This will be more comfortable. A front-fastening bra can be easier to take on and off. Ask your breast care nurse for advice.

If you have reconstruction with implants (pages 41 to 60), you may be given a Velcro® band to wear for several weeks. This is called a stabiliser band. It sits on top of the implants and helps make sure they stay in the correct position. You should wear this day and night.

Exercises

Your physiotherapist, breast care nurse or surgeon will show you exercises to do. At first, you may have some discomfort when you move your arms. But it is important to continue to use your arms and do the exercises you are given. You will also have specific exercises to do if you have surgery to another part of your body, such as your tummy.

Checking the breast tissue

After surgery, samples of your breast tissue are sent to a laboratory and examined under a microscope. This is to make sure there are no changes in the cells that might be the early stages of cancer.

If any cancer changes are found, your doctor and nurse will talk to you about any further treatment you might need.

Going home

Your surgical team will let you know how long you can expect to be in hospital for after your operation. This will depend on:

- the type of surgery you have
- whether you have immediate or delayed reconstruction.

If you have breast implants, you may be in hospital for up to 2 nights. After an operation using a tissue flap, you may be in hospital for up to 7 nights.

At home

When you first get home, it is a good idea to have someone around who can help you. You will probably feel tired for the first 1 to 2 weeks. At home, you should gradually increase your level of activity.

Avoid housework such as vacuuming. This might put a strain on the muscles in the chest and under the arm, or any other muscles operated on.

Do light tasks to begin with and slowly build up from there. Do not move or lift anything heavy until your surgeon says it is okay. Avoid lifting babies or children.

Possible complications after surgery

Most of the possible complications after surgery can be treated. But there can sometimes be more serious or long-term problems. Smoking, being overweight or having diabetes can increase this risk.

Bruising and bleeding

Sometimes blood may collect in a reconstructed breast or donor site. This is called a haematoma. It is most likely to happen in the first 24 hours after surgery. It can cause swelling and pain. If you have a wound drain, this will usually collect any excess blood. If the haematoma gets worse, you may need an operation to stop the bleeding and remove it.

Blood clots

Surgery and bed rest increase the risk of developing a blood clot in the legs. This is called deep vein thrombosis (DVT). After surgery, you may notice you have something around your lower legs which pumps air up and down. This helps keep your blood flowing and prevent blood clots while you are on the bed.

You will usually be given compression stockings to wear to try to prevent DVT. You will be encouraged to move around as soon as possible after the operation. You may also be given blood-thinning injections for a few days after the operation.

Fluid under the wound (seroma)

Sometimes after wound drains are taken out, fluid builds up under the wound. This is called a seroma.

Seromas are usually absorbed back into the body. If this happens, it may settle on its own. Or you may need to have the fluid removed. A surgeon or nurse can do this with a small needle and syringe. The fluid can build up again, so it may need to be removed more than once.

Delays in wound healing

Wounds usually heal within 6 weeks. But sometimes wound healing can take longer. This may be because of infection. Or there may not be a good enough blood supply to the wound.

Smoking, radiotherapy or being very overweight can delay wound healing. Stopping smoking and eating a healthy, balanced diet with enough protein and vitamin C help tissues heal.

We have more information about stopping smoking at **macmillan.org.uk/stop-smoking**

You may also find our booklet **Healthy eating and cancer** useful.

Infection

When you go home after your operation, you will be told how to check your wounds regularly. Tell your breast care nurse or surgeon straight away if you have any signs of infection, such as:

- heat, redness, pain, swelling or a change in colour over the breast, around the scar, or both
- fluid coming from the wound
- a temperature above 38°C (100.4°F)
- feeling shivery and shaky
- feeling generally unwell.

Your nurse or surgeon will look at the wound and may take a swab to send for testing. If you have implants, you may need to go to the hospital for observation. Your doctor may give you antibiotics into the vein to treat an infection.

Possible long-term effects

There are possible long-term side effects of breast reconstruction surgery. Some side effects may not go away completely.

Raised, thickened scars

Occasionally, tissue along the scars may thicken and turn red. This makes scars wider and look raised above the skin. These are called keloid scars.

If you have any concerns about your scars, talk to your nurse or surgeon. They can check they are healing. If there is a problem, they can give you treatment to help (page 119).

Keloid scars may be:

- thicker
- more raised
- larger than the original scar.

These are more common if you have brown or black skin. Sometimes keloid scars run in families.

Chronic pain

Pain usually gets better in the weeks after surgery. For some people, pain can continue for months or even years after the operation. Pain may be:

- along the scar
- along the chest wall
- around the shoulder or upper arm
- in the area the flap was taken from.

Pain may be due to nerve damage and can improve over time.

Pain that continues for a long time is called chronic pain. There are several different causes of chronic pain.

If you have pain that does not improve, tell your breast surgeon. They can find out the cause or recommend ways to help.

Depending on the cause of the pain, there are different ways to manage it. You may be given painkillers.

If you have nerve pain, there are painkillers that help with this. Some people are referred to a physiotherapist to find out if there are any exercises that may help.

Or you may be referred to a pain clinic. These are clinics that specialise in managing pain. Some people find certain complementary therapies can help with the pain.

We have more information in our booklet **Cancer and complementary therapies** (page 130).

In some situations, lipomodelling has been found to help with chronic pain, when it is done more than once. Lipomodelling may also help with the tight feeling some people have after having a reconstruction using tissue from the back (pages 90 to 93).

It is also important to wear a bra that fits well. Your breast care nurse can tell you more about making sure you are wearing the right bra.

Shoulder and abdominal weakness

If you have breast reconstructive surgery using your own tissue, you may have some shoulder or tummy area (abdominal) weakness. This will depend on the type of surgery you have. You can be referred to a physiotherapist to help find ways to manage this.

Recovering at home

You will need time to recover after surgery. It will take time to adjust to the changes.

Adjusting to the change in your body

You will need time to adjust to the change in your body and to see the reconstructed breasts as your own. Looking at and touching your reconstructed breasts will help you get used to them. Try to build up the number of times you look at and feel your breasts over time.

If you find this difficult or are avoiding looking at your breasts, it is important to talk to someone. Your healthcare team can give you extra support if you need it. We have more information about coping with changes to your body image in our booklet **Body image and cancer.**

You can order our booklets and leaflets for free.
Visit **be.macmillan.org.uk** or call us on **0808 808 00 00**.

Sex

It is usually fine to have sex after your operation. But it is important you feel comfortable when having sex. This could be a few weeks after your operation, but it may take longer. Ask your surgeon or specialist breast nurse whether there is anything you need to be careful about.

We have more information about relationships, sex and intimacy after breast surgery (pages 124 to 126).

Looking after your wounds and scars

Your wounds may feel itchy after your operation. Try not to scratch the healing skin. The itching will get better as the wounds heal. It usually takes about 6 weeks for wounds to heal fully.

Once your wounds have healed, most surgeons recommend you massage the scars:

- over your reconstructed breasts
- at the donor site, if you have one.

Do this with body oil or moisturiser at least once a day. Massaging along the length of the scars helps stop them sticking to tissue underneath. It can also help soften your scars. Your surgeon or breast care nurse can tell you what they recommend and show you how much pressure to use.

After your operation, scars will be firm and may be slightly raised. If you have light or pale skin, the scars will be red. If you have brown or black skin, they will be darker.

It can take 18 months to 2 years for scars to settle and fade. Tell your doctor or specialist breast nurse if:

- the scars remain red and raised
- you are worried about how your scars are healing.

There are specific scar treatments that can help scars settle and fade. If you have keloid scars, they may be more noticeable for longer (page 115).

It is very important to protect your scars from the sun. Use a sun cream with a high sun protection factor (SPF). This should be at least SPF 50 for any area of scarring exposed to the sun. You may be told to do this for up to 2 years.

Work

When you return to work depends on:

- the type of work you do
- the type of operation you have.

If your job does not involve heavy manual work, you may be able to go back to work sooner. You are likely to feel more tired than usual for a while after surgery. You may also find it difficult to concentrate fully at first. This should improve over time.

We have more information about work and cancer on our website. Visit **macmillan.org.uk/work-and-cancer**

Driving

You can usually start driving again:

- once you can use the gear stick and handbrake
- when you feel comfortable and confident enough to do an emergency stop and move the steering wheel suddenly if necessary.

You are usually able to drive within a few weeks after surgery. But some people may find it takes longer. Your surgeon or nurse can advise you on this. Insurance companies usually have their own guidelines about when you can drive again after an operation. Check with your insurance company to make sure you are covered.

You can discuss any worries you have about driving after your surgery with the Driver and Vehicle Licensing Agency (DVLA) if you live in England, Scotland or Wales. Visit **gov.uk/contact-the-dvla**

If you live in Northern Ireland, contact the Driver and Vehicle Agency (DVA). Visit **nidirect.gov.uk/information-and-services/motoring**

Checking your breasts

You will not need to have any further screening tests after risk-reducing breast surgery. But you should still check your breast area regularly. There will be a small amount of breast tissue remaining.

It may take time for you to get used to the look and feel of your reconstructed breasts. Ask your nurse to show you how to check your breasts. They can also give you leaflets to remind you what to do.

Things to look out for include:

- anything in your reconstructed breasts that feels different – for example, if they are swollen or feel firmer, harder or tighter
- a change in the appearance or shape of your reconstructed breasts
- a change in the skin's texture – for example, puckering, dimpling, a rash or thickening
- a lump or lumpy area you can feel in the breast or armpit
- a change in the appearance or colour of the breast
- a rash or change along the scar line
- swelling of the upper arm
- discharge from the nipple (if not removed)
- a rash or swelling on the nipple or the areola (if not removed)
- pain or discomfort.

These changes may not be caused by cancer. But it is important to tell your nurse or doctor if you find anything that worries you. They will examine you and arrange tests to check for anything unusual. These can include an ultrasound, MRI scan or biopsy.

If you are not happy with the results

The way you feel about your breast reconstruction may depend on your own expectations. Make sure you discuss this with your surgeon before you decide to have the surgery.

It takes several months for the breasts to settle into their final shape. This means the way you feel about how they look may change over this time. It can take up to 2 years for:

- swelling to settle
- scars to fully heal
- redness to fade.

If you have concerns about your reconstructed breasts, talk to your surgeon or breast care nurse. It usually takes more than 1 operation to achieve a good result. Your surgeon may be able to offer you another operation to improve the result. If you are still unhappy after talking with your surgeon, you can ask to speak to another surgeon for a second opinion.

What you think is a successful breast reconstruction may be different to your surgeon. Before considering another surgery, it may be worth taking time to understand more about how you feel about changes to your body caused by surgery and reconstruction. A psychologist or counsellor can help you to do this and focus on what feels right for you. For some people, this is more helpful than another operation. If this might be helpful, you can ask your specialist or GP to make a referral for you.

Relationships, sex and intimacy

Having breast surgery may affect your sex life and the way you think and feel about your body (your body image). This usually improves with time.

If you have breast reconstruction, this will create breast shapes. But the sensations in the breasts and nipples will not be the same as before. If you were previously aroused by having your breasts touched, your sexual arousal may be affected. It may take time to adjust, but it is possible to still enjoy a fulfilling sex life.

It is important to take things at your own pace.

We have more information in our booklets **Body image and cancer** and **Cancer and your sex life** (page 130).

If you have a partner

There may be a period of adjustment for you both. It may take time to feel comfortable talking about your surgery and showing your partner your reconstructed breasts. You may feel nervous about your partner's reaction. The surgery may affect how you feel and think about yourself sexually.

Your partner may be worried about touching the reconstructed breast because they think they may hurt you. You may find talking to each other and sharing your feelings and fears can help you both.

Even if you do not feel like having sex, there are other sensual and affectionate ways of showing how much you care for someone. Some examples of this include:

- cuddles
- kisses
- massages.

It might help to spend time being close and intimate without having sex. Sometimes this can lead to sex. But it is also a way to build trust and confidence together.

If you are not in a relationship

You may worry about what a new partner might think about your surgery. You may be unsure what to tell a new partner. It is your decision how, when and what you tell them. Usually, talking openly with each other can have a positive effect on your relationship. It can make you feel more comfortable with each other.

If you are having sexual difficulties that are not improving, help is available. You can get sex counselling through Relate (page 140). Or ask your doctor to refer you to a sex counsellor.

Emotional effects

Risk-reducing breast surgery can cause many different emotions and feelings. You may feel a sense of relief when the surgery is over.

But it can still take time to get used to your new look. It is normal to have some concerns about how you see and feel about your body (your body image). If these do not improve, talk to your breast care nurse.

We also have more information about this in our booklet **Body image and cancer** (page 130).

You have had a lot to cope with already. You may be dealing with the news that your family has a strong history of breast cancer and the impact this might have on you and your family. If you have children, you may worry about whether they will be affected in the future.

Some people say that risk-reducing breast surgery has reduced their anxiety about getting breast cancer. And many recommend surgery to others in a similar situation. But they may still have feelings of loss for their previous appearance and sense of health.

Your breast care nurse can talk over your situation with you. There are also people and organisations that can help you talk about and deal with your feelings and emotions (pages 136 to 141).

"You just get on with life and hope for the best. I have had the risk-reducing surgery, so I have done everything I can. "

Katy

Further information

About our information

We provide expert, up-to-date information about cancer. And all our information is free for everyone.

Order what you need

You may want to order more booklets or leaflets like this one. Visit **be.macmillan.org.uk** or call us on **0808 808 00 00**.

We have booklets about different cancer types, treatments and side effects. We also have information about work, financial issues, diet, life after cancer treatment and information for carers, family and friends.

Online information

All our information is also available online at **macmillan.org.uk/information-and-support** You can also find videos featuring stories from people affected by cancer, and information from health and social care professionals.

Other formats

We also provide information in different languages and formats, including:

- audiobooks
- Braille
- British Sign Language
- easy read booklets
- eBooks
- large print
- translations.

Find out more at **macmillan.org.uk/otherformats**

If you would like us to produce information in a different format for you, email us at **cancerinformationteam@macmillan.org.uk** or call us on **0808 808 00 00**.

The language we use

We want everyone affected by cancer to feel our information is written for them.

We try to make sure our information is as clear as possible. We use plain English, avoid jargon, explain any medical words, use illustrations to explain text, and make sure important points are highlighted clearly.

We use gender-inclusive language and talk to our readers as 'you' so that everyone feels included. Where clinically necessary we use the terms 'men' and 'women' or 'male' and 'female'. For example, we do so when talking about parts of the body or mentioning statistics or research about who is affected. Our aims are for our information to be as clear and relevant as possible for everyone.

You can read more about how we produce our information at **macmillan.org.uk/ourinfo**

Other ways we can help you

At Macmillan, we know how a cancer diagnosis can affect everything, and we are here to support you.

Talk to us

If you or someone you know is affected by cancer, talking about how you feel and sharing your concerns can really help.

Macmillan Support Line

Our free, confidential phone line is open 7 days a week, 8am to 8pm. We can:

- help with any medical questions you have about cancer or your treatment
- help you access benefits and give you financial guidance
- be there to listen if you need someone to talk to
- tell you about services that can help you in your area.

Our trained cancer information advisers can listen and signpost you to further support. Call us on **0808 808 00 00**. We are open 7 days a week, 8am to 8pm.

You can also email us, or use the Macmillan Chat Service via our website. You can use the chat service to ask our advisers about anything that is worrying you. Tell them what you would like to talk about so they can direct your chat to the right person. Click on the 'Chat to us' button, which appears on pages across the website. Or go to **macmillan.org.uk/talktous**

If you would like to talk to someone in a language other than English, we also offer an interpreter service for our Macmillan Support Line. Call **0808 808 00 00** and say, in English, the language you want to use. Or send us a web chat message saying you would like an interpreter. Let us know the language you need and we'll arrange for an interpreter to contact you.

Information centres

Our information and support centres are based in hospitals, libraries and mobile centres. Visit one to get the information you need and speak with someone face to face. If you would like a private chat, most centres have a room where you can speak with someone confidentially.

Find your nearest centre at **macmillan.org.uk/informationcentres** or call us on **0808 808 00 00**.

Help with money worries

Having cancer can bring extra costs such as hospital parking, travel fares and higher heating bills. If you have been affected in this way, we can help. Please note the opening times may vary by service.

Financial guidance

Our financial team can give you guidance on mortgages, pensions, insurance, borrowing and savings.

Help accessing benefits

Our welfare rights advisers can help you find out what benefits you might be entitled to, and help you complete forms and apply for benefits. They can also tell you more about other financial help that may be available to you. We can also tell you about benefits advisers in your area. Visit **macmillan.org.uk/financialsupport** to find out more about how we can help you with your finances.

Help with energy costs

Our energy advisers can help if you have difficulty paying your energy bills (gas, electricity and water). They can help you get access to schemes and charity grants to help with bills, advise you on boiler schemes and help you deal with water companies.

Macmillan Grants

Macmillan offers one-off payments to people with cancer. A grant can be for anything from heating bills or extra clothing to a much-needed break.

Call us on **0808 808 00 00** to speak to find out more about Macmillan Grants.

Help with work and cancer

Whether you are an employee, a carer, an employer or are self-employed, we can provide support and information to help you manage cancer at work. Visit **macmillan.org.uk/work**

Work support

Our dedicated team of work support advisers can help you understand your rights at work. Call us on **0808 808 00 00** to speak to a work support adviser.

Talk to others

No one knows more about the impact cancer can have on your life than those who have been through it themselves. That is why we help bring people together in their communities and online.

Support groups

Whether you are someone living with cancer or a carer, family member or friend, we can help you find support in your local area, so you can speak face to face with people who understand. Find out about support groups in your area by calling us or by visiting **macmillan.org.uk/selfhelpandsupport**

Online Community

Thousands of people use our Online Community to make friends, blog about their experiences and join groups to meet other people going through the same things. You can access it any time of day or night. Share your experiences, ask questions, or just read through people's posts at **macmillan.org.uk/community**

You can also use our Ask an Expert service on the Online Community. You can ask a financial guide, cancer information nurse, work support advisor or an information and support advisor any questions you have.

Macmillan healthcare professionals

Our nurses, doctors and other health and social care professionals give expert care and support to individuals and their families. Call us or ask your GP, consultant, district nurse or hospital ward sister if there are any Macmillan professionals near you.

Other useful organisations

There are lots of other organisations that can give you information or support. Details correct at time of printing.

Breast cancer organisations

Breast Cancer Haven

Tel **0757 263 7588**
www.breastcancerhaven.org.uk
Has information about healthy eating, exercise and stress reduction classes, and a range of self-help videos and resources. These can be accessed online.

Breast Cancer Now

Helpline **0808 800 6000**
www.breastcancernow.org
Provides information and practical and emotional support to people affected by breast cancer. Specialist breast care nurses run the helpline. Also offers a peer support service where anyone affected by breast cancer can be put in touch with a trained supporter who has had personal experience of breast cancer.

Keeping Abreast

Tel **0160 381 9113**
www.keepingabreast.org.uk
Offers support for people having breast reconstruction. Provides a network of dedicated support groups and online support across the UK.

General cancer support organisations

Asian Women Cancer Group

www.asianwomencancergroup.co.uk
Helps Asian women who have been affected by breast cancer. Provides emotional support and financial guidance.

Cancer Black Care

Tel **0208 961 4151**
www.cancerblackcare.org.uk
Offers UK-wide information and support for people from Black and minority ethnic communities who have cancer. Also supports their friends, carers and families.

Cancer Focus Northern Ireland

Helpline **0800 783 3339**
www.cancerfocusni.org
Offers a variety of services to people affected by cancer in Northern Ireland.

Cancer Research UK

Tel **0300 123 1022**
www.cancerresearchuk.org
A UK-wide organisation that has patient information on all types of cancer. Also has a clinical trials database.

Cancer Support Scotland

Tel **0800 652 4531**
www.cancersupportscotland.org
Runs cancer support groups throughout Scotland. Also offers free complementary therapies and counselling to anyone affected by cancer.

Macmillan Cancer Voices

www.macmillan.org.uk/cancervoices
A UK-wide network that enables people who have or have had cancer, and those close to them such as family and carers, to speak out about their experience of cancer.

Maggie's

Tel **0300 123 1801**
www.maggies.org
Has a network of centres in many locations throughout the UK. Provides free information about cancer and financial benefits. Also offers emotional and social support to people with cancer, their family, and friends.

Penny Brohn UK

Tel **0303 300 0118**
www.pennybrohn.org.uk
Offers physical, emotional and spiritual support across the UK, using complementary therapies and self-help techniques.

Tenovus

Helpline **0808 808 1010**
www.tenovuscancercare.org.uk
Aims to help everyone in the UK get equal access to cancer treatment and support. Funds research and provides support such as mobile cancer support units, a free helpline, benefits advice and an online 'Ask the nurse' service.

General health information

Health and Social Care in Northern Ireland

online.hscni.net
Provides information about health and social care services in Northern Ireland.

NHS.UK

www.nhs.uk
The UK's biggest health information website. Has service information for England.

NHS 111 Wales

111.wales.nhs.uk
NHS health information site for Wales.

NHS Inform

Helpline **0800 22 44 88**
www.nhsinform.scot
NHS health information site for Scotland.

Counselling

British Association for Counselling and Psychotherapy (BACP)

Tel **0145 588 3300**
www.bacp.co.uk
Promotes awareness of counselling and signposts people to appropriate services across the UK. You can also search for a qualified counsellor on the 'How to find a therapist' page.

College of Sexual and Relationship Therapists (COSRT)

Tel **0208 106 9635**
www.cosrt.org.uk
Has a directory of therapists to help members of the public find professional support in their local area.

Relate

www.relate.org.uk
Offers advice, relationship counselling, sex therapy, workshops, mediation, consultations and support face to face, by phone and online.

Emotional and mental health support

Mind

Helpline **0300 123 3393**
www.mind.org.uk
Provides information, advice and support to anyone with a mental health problem through its helpline and website.

Samaritans

Helpline **116 123**
Email **jo@samaritans.org**
www.samaritans.org
Provides confidential and non-judgemental emotional support, 24 hours a day, 365 days a year, for people experiencing feelings of distress or despair.

LGBT-specific support

LGBT Foundation

Tel **0345 330 3030**
www.lgbt.foundation
Provides a range of services to the LGBT community, including a helpline, email advice and counselling. The website has information on various topics including sexual health, relationships, mental health, community groups and events.

Live Through This

www.livethroughthis.co.uk
A safe space for anybody who identifies as part of the queer spectrum and has had an experience with any kind of cancer at any stage. Also produces resources about LGBT cancer experiences. LTT runs a peer support group with Maggie's Barts.

Your notes and questions

Your notes and questions

Disclaimer

We make every effort to ensure that the information we provide is accurate and up to date but it should not be relied upon as a substitute for specialist professional advice tailored to your situation. So far as is permitted by law, Macmillan does not accept liability in relation to the use of any information contained in this publication, or third-party information or websites included or referred to in it. Some photos are of models.

Thanks

This booklet has been written, revised and edited by Macmillan Cancer Support's Cancer Information Development team. It has been approved by our Senior Medical Editor, Professor Mike Dixon, Professor of Surgery and Consultant Surgeon.

With thanks to: Caroline Coles, Breast Reconstruction Nurse; Miss Joanna Franks, Consultant Breast and Oncoplastic Surgeon; Rebecca Spencer, Macmillan Breast Reconstruction Clinical Nurse Specialist; and Mr Simon Wood, Consultant Plastic Surgeon.

Surgical photos supplied by Professor Mike Dixon, Elaine Sassoon and Miss Kalliope Valassiadou.

Thanks also to the people affected by cancer who reviewed this edition, and those who shared their stories.

We welcome feedback on our information. If you have any, please contact **cancerinformationteam@macmillan.org.uk**

Sources

Below is a sample of the sources used in our risk-reducing breast surgery information. If you would like more information about the sources we use, please contact us at **cancerinformationteam@macmillan.org.uk**

Association of Breast Surgery (ABS) and British Association of Plastic Reconstructive and Aesthetic Surgeons (BAPRAS). Association of Breast Surgery Summary Statement. Breast Implant Associated-Anaplastic Large Cell Lymphoma (BIA-ALCL). 2017. Available from: https://associationofbreastsurgery.org.uk/media/64198/final-alcl.pdf [accessed November 2022]

Association of Breast Surgery (ABS) and British Association of Plastic Reconstructive and Aesthetic Surgeons (BAPRAS). Oncoplastic Breast Reconstruction: Guidelines for Best Practice. ABS and BAPRAS. 2012. Available from: www.bapras.org.uk/docs/default-source/commissioning-and-policy/final-oncoplastic-guidelines—healthcare-professionals.pdf?sfvrsn=0 [accessed November 2022]

Cardoso F et al. Annals of Oncology. August 2019. Available from: www.annalsofoncology.org/article/S0923–7534(19)31287–6/fulltext [accessed November 2022]

ESMO Clinical Practice Guidelines for cancer prevention and screening. Prevention and screening in BRCA mutation carriers and other breast/ovarian hereditary cancer syndromes. Paluch-Shimon S et al. Annals of Oncology. September 2016. Available from: www.annalsofoncology.org/article/S0923–7534(19)31645-X/fulltext [accessed November 2022]

National Institute for Health and Care Excellence (NICE). Breast reconstruction using lipomodelling after breast cancer treatment. 2012. Available from: www.nice.org.uk/guidance/ipg417/ [accessed November 2022]

Can you do something to help?

We hope this booklet has been useful to you. It is just one of our many publications that are available free to anyone affected by cancer. They are produced by our cancer information specialists who, along with our nurses, benefits advisers, campaigners and volunteers, are part of the Macmillan team. When people are facing the toughest fight of their lives, we are here to support them every step of the way.

We want to make sure no one has to go through cancer alone, so we need more people to help us. When the time is right for you, here are some ways in which you can become a part of our team.

5 ways you can help someone with cancer

1. **Share your cancer experience**
   Support people living with cancer by telling your story, online, in the media or face to face.

2. **Campaign for change**
   We need your help to make sure everyone gets the right support. Take an action, big or small, for better cancer care.

3. **Help someone in your community**
   A lift to an appointment. Help with the shopping. Or just a cup of tea and a chat. Could you lend a hand?

4. **Raise money**
   Whatever you like doing you can raise money to help. Take part in one of our events or create your own.

5. **Give money**
   Big or small, every penny helps.
   To make a one-off donation see over.

Please fill in your personal details

Mr/Mrs/Miss/Other

Name

Surname

Address

Postcode

Phone

Email

Please accept my gift of £
(Please delete as appropriate)

I enclose a cheque / postal order / Charity Voucher made payable to Macmillan Cancer Support
OR debit my:
Visa / MasterCard / CAF Charity Card / Switch / Maestro

Card number

Valid from

Expiry date

Issue no

Security number

Signature

Date / /

Do not let the taxman keep your money

Do you pay tax? If so, your gift will be worth 25% more to us – at no extra cost to you. All you have to do is tick the box below, and the tax office will give 25p for every pound you give.

☐ I am a UK tax payer and I would like Macmillan Cancer Support to treat all donations I make or have made to Macmillan Cancer Support in the last 4 years as Gift Aid donations, until I notify you otherwise.

I understand that if I pay less Income Tax and/or Capital Gains Tax than the amount of Gift Aid claimed on all my donations in that tax year it is my responsibility to pay any difference. I understand Macmillan Cancer Support will reclaim 25p of tax on every £1 that I give.

Macmillan Cancer Support and our trading companies would like to hold your details in order to contact you about our fundraising, campaigning and services for people affected by cancer. If you would prefer us not to use your details in this way please tick this box. ☐

In order to carry out our work we may need to pass your details to agents or partners who act on our behalf.

If you would rather donate online go to **macmillan.org.uk/donate**

Registered with FUNDRAISING REGULATOR

Please cut out this form and return it in an envelope (no stamp required) to: Supporter Donations, Macmillan Cancer Support, FREEPOST LON15851, 89 Albert Embankment, London SE1 7UQ

MACMILLAN CANCER SUPPORT

This booklet is for anyone who is thinking about having risk-reducing breast surgery. You may consider this if you have a high risk of developing breast cancer.

The booklet explains what risk-reducing breast surgery is and what it involves. It talks about the different options for risk-reducing breast surgery. There is information about the benefits, limitations and risks of each type of surgery.

We also talk about some physical and emotional issues you may experience, and ways to cope with these.

At Macmillan, we give people with cancer everything we've got. If you are diagnosed, your worries are our worries. We will help you live life as fully as you can.

For information, support or just someone to talk to, call **0808 808 00 00** or visit **macmillan.org.uk**

Would you prefer to speak to us in another language? Interpreters are available. Please tell us in English the language you would like to use.
Are you deaf or hard of hearing? Call us using NGT (Text Relay) on **18001 0808 808 00 00**, or use the NGT Lite app.
Need information in different languages or formats? We produce information in audio, eBooks, easy read, Braille, large print and translations. To order these, visit **macmillan.org.uk/otherformats** or call our support line.

Trusted Information Creator
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